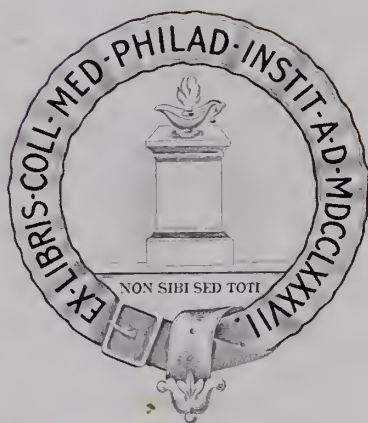


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EDITORIALS

DO YOU READ STATE SECTIONS?

An important department of this journal is that which is devoted to the individual interests of the three state associations which it represents. Under the designation "State Sections" are presented each month descriptions and discussions of matters of special interest to the physicians of each of these states. Complaint has been received that members of some of the state organizations represented do not read these articles, and accordingly do not keep posted on events and progress of affairs that properly should command their attention. This failure of observation and reading cannot be laid at the door of this journal. The material is there and easily accessible. Failure to read it can only be attributed to lack of attention and interest on part of the individual physicians.

In order to call special attention to matters of special interest under State Sections, as well as original articles that seem of particular importance, the table of contents which has always appeared on the title page, will hereafter be found on page four of the advertising section. On the title page hereafter will be listed those items and papers which appear to be of sufficient importance for individual mention. It is hoped that this arrangement may be effective in making this journal more useful to its readers.

THE TITLE PAGE

Ever since medical journals have been published the standard cover has been white with black lettering. Of late it has become popular to utilize colors for the cover, for which all hues and shades of the rainbow have been adopted. Some journals select one color and use it from month to month, while others appeal to the fancy of their readers by varying the color with different issues.

Until the present time this journal has been one of the few that has maintained its original style and format. Since, however, there have developed requests for a new appearance to keep in line with the example of other publications, this issue in-

This journal goes to press the first day of the month. Material for publication should be received by the 25th of the preceding month.



Reprints will be furnished by the printer according to the schedule of prices which accompanies the galley proofs submitted to the author. The order for reprints should accompany the returned galley proofs. The printer holds the type until the first of the following month.



Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

augurates a new title page. Believing there is dignity and attraction in black and white without indulging in the assistance of a color scheme, the format has been adopted which is hereby presented. It is believed this will be distinctive, and if it meets with general favor will probably be maintained for future issues. If its appearance evokes comments on the part of readers which they desire to express, their views will be gladly received.

PACIFIC STATES MEDICAL EXECUTIVES CONFERENCE

Third Pacific States Medical Executives Conference was held at the Olympic Hotel, Seattle, December 10. Problems of providing care for indigent and low-wage groups was given chief consideration. This conference was first held in San Francisco early in 1938 upon invitation of executives of California Medical Association. The conference provides only for discussion and interchange of ideas. While suggestions may be made for action by the various state associations represented, the conference has no executive power. Its value lies in the fact that those in close touch with problems in each state are able to obtain help from neighboring states which may have met and successfully solved similar situations.

The Seattle meeting was probably the most interesting and valuable of the conferences so far. Newly represented were Montana, whose state association sent its president, and British Columbia which sent three delegates, including the chairman of the committee on economics of Canadian Medical Association.

Discussion on care of low-wage groups was opened by the delegate from California who described operations of the California Physicians' Service. This organization inaugurated little more than a year ago and has had many difficulties to surmount before it was put into active function. Plans are somewhat more ambitious than those now in operation in Oregon and Washington. Conclusions cannot yet be drawn as to the value of the plan.

The unique situation in Oregon which allows corporations to dispense medical service was explained, and full text of this explanation appearing in this issue of *NORTHWEST MEDICINE*. The Washington bureau system was also discussed and it was announced that Washington State Medical Association had requested the American Medical Association to make a survey of the service offered in this state.

Care of indigent was briefly discussed. It was

announced that the Washington State Department of Health, together with the Department of Social Security and a committee from Washington State Medical Association, has undertaken a survey of all public medical care in the state. Postgraduate medical education received considerable attention and the necessity of keeping those in practice informed of latest advances was brought out. Various means, including annual meetings of the state association, various county meetings, refresher courses sponsored by state health departments, and various other methods were discussed. Idaho has long made the annual meeting a postgraduate educational session and has found that meetings have had better attendance since this practice was started.

Representatives of the Farm Security Administration were present at part of the meeting and heard discussion of care of their clients. Each state represented at the conference has found the care of rehabilitation clients of the Farm Security Administration a most baffling problem. This group and plans for their care have been under discussion for many months with very little accomplished to date. So far, no one has offered any plan which would allow prepayment of care by these groups on any workable basis. It was recommended that the Farm Security Administration present uniform plans for consideration by the various state associations represented.

The variety of subjects discussed indicates the interest of those in responsible positions in the various state associations. Executives of state organizations are faced with many problems which were unheard of a few years ago. Their work is frequently extremely difficult and they are called upon to make decisions which may vitally affect medical practice in the next few years. Their responsibilities to the profession are tremendous. Conferences such as this one are of inestimable benefit to the men who bear these responsibilities. Ideas are exchanged, help is given, and methods are suggested which may help solve the baffling problem. This conference will, no doubt, grow in importance and value each year.

MORE CONCERNING THE NATIONAL PHYSICIANS' COMMITTEE

In last month's issue of this journal was published an announcement concerning the formation of the National Physicians' Committee and something of its purposes. Many members of the profession apparently have not yet absorbed what it is all about and are making constant inquiries con-

cerning the objectives in view. This committee is voluntarily organized as a nonpolitical, nonprofit group for maintaining ethical and scientific standards and extending medical service to all the people. While its members belong to the American Medical Association, it is working independently of that organization. The personnel of the committee appeared in our December issue. Members of the Central Committee from Oregon are C. E. Hunt of Eugene; R. L. Benson, M. L. Bridgeman, J. H. Fitzgibbon, M. W. Jones, F. R. Mount, J. A. Pettit, C. E. Sears of Portland. From Washington are J. R. Morrison of Bellingham, H. D. Dudley of Seattle, H. E. Rhodehamel of Spokane, J. E. Bettner of Yakima.

This committee is primarily an instrument of propaganda. It is stated that the weak spot in American medicine is its singleness of purpose, exclusiveness of its devotion to scientific improvement and technical effectiveness. One of its weaknesses is a lack of propaganda in the face of the attacks which have been made upon it from various sources. The aims of The National Physicians' Committee are as follows:

1. Making possible the provision of medical service to the indigent and low-income groups, and assuring the most widespread distribution of the most effective methods and equipment in medicine and surgery.

2. Assuming responsibility of countering destructive propaganda by familiarizing the public with facts in connection with the methods and the achievements of American medicine.

To accomplish these ends, the National Physicians' Committee plans to flood all channels of propaganda: the daily, weekly, and trade papers, the magazines, the radio, public meetings and meetings of any other sympathetic groups.

It will advocate the following objectives:

1. Maintenance of independent private medical practice.
2. Preservation and extension of our independent hospital system.
3. Centralization of all health services of Federal and State governments.
4. Determination of health requirements on the basis of locally gathered and locally interpreted data and the utilizing of grants-in-aid only under conditions of locally demonstrated needs.
5. Control and disbursement of public health funds by administrators locally appointed or locally elected.

In order to carry on these proposed endeavors a "war chest" must be established, the initial goal being set at \$250,000 which it is proposed to collect from physicians, laymen and industrial organizations. Funds are coming in from all these sources, and every member of the profession is solicited to add his quota.

ORIGINAL ARTICLES

THE OREGON PLAN*

PROVIDING MEDICAL CARE FOR THE LOW-WAGE
INDUSTRIAL GROUP

W. W. BAUM, M.D.

SALEM, ORE.

Before setting forth the Oregon Plan for providing medical care to the low-wage industrial group, it is necessary that we give consideration to certain facts in the history of contract practice in this state and also to certain peculiarities in the laws of the state of Oregon. Commercial organizations have engaged in the business of supplying medical and hospital care, drugs, nursing and allied services to groups of individuals on a contract basis for over thirty years. It is the general policy of the law of the United States that the practice of medicine, law and other professions shall be confined to certain qualified individuals. Corporations cannot practice medicine or contract to furnish medical care. In 1917 the Oregon State Legislature passed the so-called Hospital Association Act, the effect of which is to permit corporations to contract to furnish medical and allied services without being liable to prosecution for practicing medicine without a license.

The commercial hospital associations, being business organizations, naturally operated along the lines of business rather than medical ethics. Being interested in producing a profit for their owners and stockholders, they concentrated their efforts on obtaining profitable contracts, usually large industrial groups. As business organizations, they were primarily interested in pleasing customers (in this case the subscribers and particularly the owners and managers of industrial plants, through whom contracts were generally obtained), and often made concessions which were against the best interests of physician and patient in order to sell contracts.

Contract medicine of this type, legalized under the state laws since 1917, spread throughout the state and gave coverage to a large percentage of the industrial groups. The system operated with a fair degree of satisfaction so far as the employee and employer were concerned, but with increasing degree of dissatisfaction on the part of physicians who were in a position to see and appreciate the serious ill-effects of such third party interference upon the traditional physician-patient relationship.

Being dissatisfied with the situation as it existed, the physicians in several communities organized hospital associations which were owned mutually

* Presented before a meeting of Pacific Coast Association of Medical Executives, Seattle, Wash., Dec. 10, 1939.

by the physicians and which were operated by them. Since the wage earners and their employers had been educated through many years to the above described type of "hospital association" coverage, it was necessary for the new physician-owned associations to offer them similar coverage and to compete with commercial associations in selling their contracts to employers and employees. That is, it was not possible for the local groups or Oregon State Medical Society to set up and operate an ideal plan or one which was free from all objectionable features; they were forced to accept conditions as they existed and to formulate a plan which would meet those conditions from a practical standpoint. The society studied the problem for several years and at the 1938 meeting adopted a Policy and Program for the Medical Care of Low-Wage Industrial Groups which has since been modified only in certain details.

Space does not permit setting forth of the plan in complete detail. The basis of the plan was to coordinate the physician-owned mutual organizations which were then operating in various localities, and using this group as a nucleus to encourage the formation of similar local groups in any communities where the need for such contract practice existed. In order to carry on these activities the Oregon State Medical Society set up the Bureau of Medical Economics, which Bureau was composed of (1) the executive committee of the council of the society and (2) one representative from each local organization operating under the plan. Funds for the operation of the Bureau are provided in part by a contribution from the funds of Oregon State Medical Society and in part by an assessment upon each of the local groups. At the present time upon each of the local groups.

Contracts offered to employees under the plan include furnishing of drugs and hospital services. It is hoped in the near future to be able to divorce these and to limit the contracts to furnishing of medical service only. Contracts written under the plan differ in certain details, due to various local requirements, but all offer essentially the following services: (1) all necessary medical and surgical treatment, limited to a period of one year for any one disease; (2) complete hospital service (ward), limited to six months in any one case; (3) all necessary medicines, medical and surgical supplies; (4) dental service for acute conditions and extraction of teeth necessary in treatment of general disease.

Fees paid by subscribers under these contracts vary in different industries and localities, ranging from \$1.50 to \$2.00 per month. The plan is de-

signed to benefit the low-wage group and the Bureau has recommended that a maximum income level of \$1000 per year for single persons and \$1600 for married persons be adopted as an objective, with each local organization being permitted to fix lower income levels if it so desires.

The Bureau of Medical Economics is guided by the following fundamental principles of policy and program:

1. The principle of local autonomy, namely, that the medical profession in each local community should handle its own affairs, including the determination of the need of any special plan to provide medical care to low-wage industrial groups and the nature of any such plan.

2. The principle that Oregon State Medical Society should act as a clearing-house of information for its component societies and should provide them with the fullest technical assistance in surveying their local conditions, and in developing and installing special plans of medical care where the component societies desire them.

3. The principle that Oregon State Medical Society should retain its independent status as a scientific and educational organization and its censorial functions over all plans for providing medical care.

In granting approval to a local organization and admitting it to membership in the Bureau, it is required that the following principles be observed:

1. All features of medical service in any method of medical practice should be under the control of the medical profession. No other body or individual is legally or educationally equipped to exercise such control.

2. No third party must be permitted to come between the patient and his physician in any medical relation. All responsibility for the character of medical service must be borne by the profession.

3. Patients must have absolute freedom to choose a legally qualified doctor of medicine who will serve them from among all those qualified to practice and who are willing to give service.

4. The method of giving the service must retain a permanent, confidential relation between the patient and a "family physician." This relation must be the fundamental and dominating feature of any system.

5. All medical phases of all institutions involved in the medical service should be under professional control, it being understood that hospital and medical service should be considered separately. These institutions are but expansions of the equipment of the physician. He is the only one whom the laws of all nations recognize as competent to use them in the delivery of service. The medical profession alone can determine the adequacy and character of such institutions. Their value depends on their operation according to medical standards.

6. In whatever way the cost of medical service may be distributed, it should be paid for by the patient in accordance with his income status and in a manner that is mutually satisfactory.

7. Medical service must have no connection with any cash benefits.

8. Any form of medical service should include within its scope all legally qualified doctors of medicine of the locality covered by its operation who wish to give service under the conditions established.

9. Systems for the relief of low-income classes should be limited strictly to those below the "comfort level" standard of incomes.

10. There should be no restrictions on treatment or prescribing not formulated and enforced by the organized medical profession.

DUODENAL ULCER*

N. C. GILBERT, M.D.

CHICAGO, ILL.

In spite of so frequent repetition, the subject of duodenal ulcer continues to be of interest to medical gatherings. I am afraid one reason for this is that all of the voluminous literature upon peptic ulcer has added very little to the working equipment of physicians who are ever anxious to learn more of a condition which is occurring with increasing frequency. A few years ago Christian stated that during the preceding fifteen years the diagnosis of duodenal ulcer had increased in his hospital fourfold, while the incidence of other diagnoses had decreased or remained approximately stationary. I think that all of us confirm this observation in our own practice.

The irreverent might also be inclined to suggest that another reason for this interest is the frequency of duodenal ulcer or suspicion of it among physicians. There arises the unworthy suspicion that doctors may have the layman's interest in hearing the symptoms and possible therapy discussed.

Diagnosis we do not need to discuss. The clinical diagnosis is accurately confirmed by the roentgenologist, and if necessary, confirmation may be had by gastroscopic methods. I would, however, like to make one or two comments. Clinical history and physical examination are never sufficient of themselves. Gastric symptoms always mean something, and when they are present, however slight they may be, roentenologic examination is always necessary. Pain is not a necessary symptom of duodenal ulcer, and such roentenologic examination may reveal an ulcer or some other abnormality where there is no good clinical reason to suspect it. Such an examination should always include looking for a diaphragmatic hernia which is not so very uncommon; for gallstones, polyps and evidence of gastritis. The gastroscope has told us a great deal in regard to gastritis and its frequency. Lesions of the esophagus must also be borne in mind. A routine gallbladder examination should always accompany each gastrointestinal examination.

Factors which determine the occurrence of duodenal ulcer are still a matter of debate. We do not know that ulcer is the result of any one single factor, or just which of multiple factors determine its occurrence. We do not even know that all duodenal ulcers are due to the same factor or factors,

probably not. Ulcer occurrence and treatment do not seem to conform to any one set formula.

Our concepts of the etiology of ulcer receive very little help from the experimental laboratory, if we take a broad view of the results as a whole. The literature covers many hundreds of titles, and could not possibly be briefly reviewed. I can only say that every possible aspect would seem to be covered, and that if any one has any especial pet theory as to the pathogenesis of ulcer, he is certain to find such a theory confirmed experimentally. Rivers¹ published a good summary of the clinical consideration of the etiology of peptic ulcer in 1934.

Of possible causes, the part played by the acid secretion of the stomach, not only in the causation of ulcer pain but in the causation of the ulcer itself and its chronicity, probably holds the first place in our interest. It has been regarded and is still held by many to be a factor of primary importance. An attractive feature of such a theory is that it offers a very ready line of approach as to therapy. It offers a standardized and easily formulated method of treatment which covers every contingency, and doubtless makes the problem a much more simple one for the physician. Unfortunately, the problem is not quite so simple.

Alkalies do afford symptomatic relief in a great many cases for a time at least. But symptomatic relief does not solve the problem of causation here any more than elsewhere, and symptomatic relief does not cure. It is impossible to say just what part hyperchlohydria does play. It is certainly not all-important. It may be of definite importance, also it may be of little or no importance. Just as high degrees of acidity as are found in ulcer have been found in normal, healthy medical students. Normal values for hydrochloric acid are found in many cases of duodenal ulcer, and while hyperacidity is very frequently a feature, some have values lower than normal.

Friedenwald² found normal values in 46.4 per cent of patients, hypersecretion in 30.3 per cent, and a hyposecretion in 23.2 per cent. A proven achlohydria is certainly rare, and Palmer³ is of the opinion that in such cases careful and repeated examination will show the presence of free acid. It is probable that in such cases the ulcer preceded the achlohydria.

1. Rivers, A. B.: Clinical Consideration of Etiology of Peptic Ulcer. *Arch. Int. Med.*, 53: 97-119, Jan., 1934.

2. Friedenwald, J.: Clinical Study of 1000 Cases of Ulcer of Stomach and Duodenum. *Am. J. M. Sc.*, 144:157-170, Aug., 1912.

3. Palmer, W. L.: (Proceedings Assoc. of Physicians, 1939).

*Read before the Twenty-third University of Washington Graduate Medical Course of Lectures, Seattle, Wash., July 17-21, 1939.

Brown and Dolkart⁴ followed fifteen cases of duodenal ulcer and five control cases for from three to five years for the purpose of observing the acid trends. An Ewald test meal was given at least once a week. In the recurrence of ulcer during treatment in these fifteen cases, there was a relation of season, overwork and emotional stress, and to infection. The degree of acidity had no definite relationship to the onset of recurrence. In 46 per cent the acidity was higher, in 34 per cent it was lower, and 20 per cent showed no change. In the same patient the recurrence might be preceded by higher, lower or unchanged acidity. The level of the acidity also showed no relation to the degree of distress. It would seem that, in considering the pathogenesis and the treatment of ulcer, we should fix our attention not upon the acidity alone, but we should bear in mind also that the same nervous factors which cause the hypertonus and which may possibly have some bearing upon the causation of ulcer, also tend to increase gastric secretion and acidity.

The spastic pylorus and duodenal bulb may influence total acidity somewhat by decreasing the normal reflux of duodenal content and bile.

Focal infections have also been held responsible for duodenal ulcer, as they have for all other ills of a chronic nature. That focal infection plays any part in the occurrence of duodenal ulcer would seem improbable, in spite of the alluring surgical possibilities. Certainly, however, any source of infection which has any bearing upon the patient's general health should be cared for, not with the idea of curing the ulcer by any such procedure, but to improve the general level of well-being which very likely does have some influence upon the ulcer.

Crohn and Schwartzman⁵ have called our attention to the association of ulcer recurrence with upper respiratory infections, and suggest that the Schwartzman phenomenon is the responsible agent.

In Brown's⁶ study of 1,500 ulcer recurrences, upper respiratory infections were second in importance to fatigue, overwork and emotional stress in producing recurrence. Emery and Monroe⁷, in a study of 1,279 recurrences, find that fatigue, overwork and long hours, or a poorly arranged schedule of work, accounted for 334 recurrences; emotional ex-

citement, anger, worry, grief, too much social distraction for 258; upper respiratory infections for 167; and indiscretions in diet for only 37.

It is to be kept in mind that chronic infection and acute infection do tend to an unstable autonomic system. Such an imbalance doubtless has considerable bearing upon the occurrence of ulcer. Allergy has, of course, been held responsible, but in spite of the fact that some people may have unpleasant gastrointestinal symptoms following certain foods, allergy would not seem to be a real factor.

Virchow⁸ early called attention to the possible part played by local vascular and circulatory conditions. In some cases there is no doubt that these do play a part.

Traumatism caused by rough and indigestible food may play some part in delay of healing in chronic ulcer, just as Ivy has shown that it does in experimental animals. In the actual pathogenesis, trauma is an insignificant factor, although occasional rare cases have been observed following direct trauma.

Gastritis very probably does play a part in the causation of ulcer. But the presence of the gastritis itself rests very largely upon the same nervous factors which predispose to ulcer, plus eating habits, not alone as applied to diet but even more so as to meals eaten irregularly, hastily, with insufficient mastication, and when the patient is tired. Our knowledge of gastritis is rather recently acquired, and is still not complete. Judgment must wait upon further investigation.

Avitaminosis is probably more a result of treatment or lack of treatment than a cause.

Metz and Lackey⁹ observed in several cases of duodenal ulcer a mild but persistent polyuria with nocturia. Because of this, they considered the possible part which a posterior pituitary deficiency might play in the etiology. Pituitary administered experimentally diminished gastric secretion with a lowering of tonus, spasm and motility. Clinical results were in conformity with the experimental findings.

Seasonal variation is too well known to need comment. This was observed by Brown also as a factor in the recurrence of ulcer in the cases which he followed over a period of years. It is important clinically, in that it should lead to especial care in spring and fall, when recurrence is most frequent.

4. Brown, C. F. G. and Dolkart, R. E.: Gastric Acid During Recurrences and Remissions of Duodenal Ulcer. *Arch. Int. Med.*, 60:680-693, Oct., 1937.

5. Crohn, B. B. and Schwartzman, G.: Ulcer Recurrences Attributed to Upper Respiratory Tract Infection. *Am. J. Digest. Dis. & Nutrition*, 4:705-707, Jan., 1938.

6. Brown, C. F. G. and Dolkart, R. E.: Evaluation of Therapy of Peptic Ulcer. *J. A. M. A.*, 113:276-280, July 22, 1939.

7. Emery, E. S. and Monroe, R. T.: Peptic Ulcer. Nature and Treatment Based on 1435 Cases. *Arch. Int. Med.*, 55: 271-292, Feb., 1935.

8. Virchow, R.: *Virchow's Arch.*, 5:362, 1853.

9. Metz, J. H. and Lackey, R. W.: Peptic Ulcer Treated by Posterior Pituitary Extract. *Texas State J. Med.*, 34: 214-220, July, 1938.

If we review in our own minds our own clinical experience with duodenal ulcer, one or two points will stand out clearly which will seem to have a very definite bearing upon one factor which is common to most of our patients, and which has an important bearing upon therapy.

Duodenal ulcer appears to occur much more frequently in the nervous, high-strung individual, subject to what the patient himself refers to as "nervous indigestion," and in what Eppinger and Hess refer to as the vagotonic type. They appear more frequently also in those who would, under normal circumstances, be normal individuals, but who are working under unusual conditions of stress and strain and anxiety. Duodenal ulcer appears, as it recurs, coincident with conditions of overwork, fatigue and emotional stress.

Ulcer pain may come on at once with worry, apprehension or emotional stress, and go away at once when the causative factors go. Similar pain may occur without ulcer under the same circumstances.

The points which I have just mentioned are too frequent in the clinical history of duodenal ulcer not to be of some significance. A neurogenic element in the causation of ulcer, in the symptoms and in the course, would seem to be a determining factor in the larger part of the cases; not in all but in nearly all.

Pain and distress identical with that observed in duodenal ulcer are observed in cases in which there is only a spastic duodenal bulb on roentgen examination, and no demonstrable ulcer. When death has occurred from some other cause, no ulcer may be found at autopsy, in spite of ulcer symptoms.

We have every reason to think that the pain and distress of ulcer are caused primarily by spasm and hypertonus, with hyperperistalsis and increased intragastric tension. Hertz¹⁰ called attention to this in his Goulstonian Lecture in 1911 and also to the absence of pain upon direct mechanical or chemical stimulation of the gastric mucosa. His observations in regard to the effect of increased motility and intragastric tension have been confirmed by Ivy¹¹, Carlson¹², Smith and Paul¹³, Jones¹⁴ and others. The effect of acid is still in dispute by some.

It would seem to be clearly demonstrated that

the symptoms of duodenal ulcer are due to hypertonus and increased motility. We know that these conditions are in response to autonomic stimulation.

That such autonomic stimulation might in some patients be a causative factor would seem probable from the periods of increased tonus and irritability of the duodenal bulb which precede actual ulcer in some cases. Cushing's¹⁵ clinical experience in ulcer following cerebellar operations, and his observations upon the effect of central parasympathetic stimulation in producing ulcer would tend to confirm the importance of an autonomic factor. There has been a great deal of experimental work along these lines, which can not be reviewed in a clinical paper.

Hall, Ettinger and Banting,¹⁶ in experiments in which constant vagus stimulation was produced in dogs over a long period of time, observed not only gastric symptoms, but extensive hemorrhage, although no ulcer formation was observed. Lium and Porter¹⁷ were able to produce ulcer of the colon by means of a spastic contraction of the musculature induced by mechanical stimulation, by parasympathetic stimulation and by dysentery toxins.

I am quite conscious of the fact that this has been a hasty and incomplete review of some of the possible factors which might determine the occurrence and recurrence of duodenal ulcer. At best, it can not be more than suggestive. I have spent more than half of my time upon these possible underlying conditions, because I feel that more than half of our treatment, if not all, depends upon a consideration of these factors.

There can not be any set and fixed rule in regard to the treatment of ulcer. It is not merely a matter of attempting to neutralize an oversecretion of acid which may be present, and frequently is not present. It is a matter of treating the patient, not a possible hyperchlorhydria. And any plan is always subject to change at any time, according to what is learned from one's experience with that individual patient.

Some one once asked the great Newton how he arrived at his discoveries. His reply was, "I always think of them." And success in ulcer management depends upon thinking of the patient.

Any plan of treatment should include first of all a quiet talk with the patient. The talk has two main purposes. The first is to find out just what feature

10. Hertz, A. F.: Sensibility of Alimentary Canal in Health and Disease. *Lancet*, 1:1051-56, 1119-24, 1187-93, 1911.

11. Ivy A. C.: Physiology of Stomach, Studies on Gastric Ulcer. *Arch. Int. Med.*, 25:6, Jan., 1920.

12. Carlson, A. J.: Physiology of Stomach in Prolonged Fasting. *Am. J. Physiol.*, 45:120, Jan., 1918.

13. Smith, F. M. and Paul, W. D.: Studies in Mechanism of Pain in Peptic Ulcer. *Ann. Int. Med.*, 5:14-22, July, 1931.

14. Jones, C. M.: Digestive Tract Pain, Macmillan, N. Y., 1938.

15. Cushing, H.: Peptic Ulcer, and Interbrain. *Surg., Gynec. & Obste.*, 55:2-34, July, 1932.

16. Ettinger, E. H., Hall, G. E. and Banting, F. G.: Effect of Prolonged Stimulation of Vagus Nerve in Dog. *Canad. M. A. J.*, 35: 27-31, July, 1936.

17. Lium, R. and Porter, J.: Etiology of Ulcerative Colitis. *Arch. Int. Med.*, 63:201-209, Feb., 1939.

of the patient's environment and habits of life may predispose to the occurrence of the ulcer. And the second is to reassure him and to teach him how to take care of himself. Reassurance alone is no small part of the treatment.

Nothing which you may do is at all likely to "cure" the ulcer so that it will never return, or so that the patient will remain symptom-free. No matter what line of treatment you may pursue, it is very prone to return, and the patient must be instructed in habits of life which will make it as little apt to recur as possible. He must be taught how to care for himself, just as Joslin has shown us how to instruct our diabetic patients, and just as we should instruct our cardiac patients. In your talk with the patient, you will usually find various conditions of daily life which have tended to produce the ulcer, or to prevent its healing, and which will always tend to bring about a recurrence, once it has healed. He must be told that success depends much more upon observing a few very simple and easily adhered to rules of daily life, than upon any possible medication. He might as well be told, one time or another, that while duodenal ulcers heal easily, they also recur much more easily. A little extra rest and care on the first reappearance of symptoms will save a great deal of care later on. He must understand that stress, strain, fatigue, worry and emotion are even more important factors than medicine.

The patient frequently may come to you with a dread of ulcer management and an idea that his future diet will consist largely of milk, supplemented with whatever he especially dislikes in the way of food. He must be told that the regimen is not severe, and that he eventually will be put upon a very liberal diet, omitting only very few of the things that he really likes. He must also be told that duodenal ulcer does not mean surgical operation (we are talking of duodenal ulcer and not of prepyloric ulcer) or chronic invalidism, and that it does not shorten life, if reasonably cared for. He must also be assured that it does not lead to cancer. He must be told that the big and important features of ulcer management are regular and frequent meals, adequate rest, quiet relaxation and recreation, and avoidance of overwork and fatigue, worry and emotional excitement; and quiet, restful vacations. All of which is not such a very bitter pill to take. He should be told that the ulcer not only does not become worse as time goes on, but with care it may become better.

If I were to be told that I could choose one and

only one therapeutic procedure in the treatment of duodenal ulcer, I would have no hesitancy in making my choice. I would choose rest—complete physical and mental rest. For this reason, in my own practice, I usually insist upon bed rest in the treatment of patients with an active ulcer. I think this is best done in the hospital. Good results can be obtained in some cases without bed rest, but I do not think as surely or as well. In each case it is a matter of judgment. It is rarely possible to keep the patient in bed for the entire period supposed to be necessary for healing, whatever that may be, but two or three weeks, or even less, will be of great help. No amount of rest will suffice to maintain results, unless a continuous regimen of care is adhered to for an indefinite period. The patient should remain under observation at all times, and some period of rest and additional care imposed upon recurrence of symptoms.

While diet is important, it is not all-important and we can easily be too strict. When I left medical school, I had some very rigid and orthodox views upon the subject of ulcer diet. Accordingly, when I entered upon Dr. Preble's service, I was a little shocked by his rather liberal views and a little inclined to be critical until I found that his patients did quite as well as others and often better. I remember Dr. Watkins telling me once, when he observed some rather severe dietary restrictions that I had placed upon one of his patients, that the pork chops which the patient wanted were better digested than the cornflakes which he did not want. I admit there is some hyperbole as regards the pork chop, but there is also some truth in the statement.

In St. Luke's we have a more or less standardized regimen for our active ulcers, beginning with feedings of milk and cream every two hours, from 7 a.m. to 9 p.m., or in some cases hourly. Additions are gradually made until the patient is upon a liberal general diet, with some restrictions. The frequent feedings are then replaced by three moderate meals at regular intervals, with a glass of milk or its equivalent at 10 a.m. and 3 p.m., and at bedtime, and the patient returns to his work upon this diet.

The milk and cream diet at the onset is simple, and suits the conditions very well. Any diet which permits small amounts at frequent intervals will do just as well, such as the Lenhart diet, that of Muelengracht, and the Long Island College Hospital diet or some modifications of any of these.

In the diet allowed for the patient when dis-

charged from the hospital, care should be taken to meet his wishes as far as possible. Doctors are sometimes prone to judge their patients' digestive idiosyncrasies by their own. It is unnecessary to say that any diet should include adequate vitamin supply, although any deficiency in a sensible diet is very improbable.

Meals should be at regular intervals, eaten quietly and leisurely, and should be moderate in amount.

We have not time to enter into the discussion of the various ulcer diets and fads in diet. I think the simple diets which we have already outlined fit the conditions much better than any of the extreme variations.

In regard to alkalies, I am almost tempted to say that their use is in inverse ratio to the adequacy of the general ulcer management. However, that would be a little exaggeration, for some patients require alkalies. But most of them get along very well without them.

On my own service we never use them routinely. When ulcer management is first started, we do what I observed some one doing in the Massachusetts General Hospital several years ago. It impressed me as being very sensible at that time and I still think so. Some baking soda and a teaspoon are placed beside the bed, and the patient instructed to take enough soda to relieve the distress whenever it occurs. He rarely uses it except in the first few hours or the first day, and almost never needs it after the first two or three days. Most patients never touch the soda at all.

There are a few cases where some form of alkali treatment appears necessary. I am not sure that it makes so very much difference just what form of alkali is used, just so that undesirable side effects are avoided. Lately, aluminum hydroxide and hydrated magnesium trisilicate have been recommended as having no undesirable effects, and especially because large amounts may be used without danger of alkalosis. The use of alkalies of one kind or another should be regarded more as a matter of obtaining symptomatic relief, and the case managed as far as possible in a way to make them unnecessary. It must be remembered that there is a "rebound" after their use, and an increased flow of hydrochloric acid results to counteract the alkali.

One concession which I make to some of my patients in the use of alkali is to allow them to use the tablets of compressed dried milk and calcium carbonate, described by Wosika¹⁸, in place of a 10

or 3 o'clock feeding. They are convenient and can be easily carried, and are useful when milk is inconvenient to obtain.

As for the continuous drip of aluminum hydroxide, I see no possible necessity for its use. And the same applied to gastric lavage. Ulcers should be managed as simply and as easily as possible, without fuss or bother.

In my own experience I have found gastric mucin a very great aid in treatment. Just how it works I do not know. Kim and Ivy¹⁹ showed that it prevented ulcer in experimental ulcer in dogs. It may be that it supplies a deficiency as Fogelson²⁰ suggests. Lium and Porter¹⁷ observed that there was only a thin, watery material excreted in their experimental ulcers, due to muscular spasm of the colon in dogs, inadequate for protective purposes. It has been interesting to observe that some patients who discontinued the use of mucin have returned to it voluntarily because they find themselves more comfortable with it.

Spastic colon is very frequently associated with ulcer. The same bland, nonirritating diet prescribed for ulcer will usually take care of it. It should be controlled without cathartics. If anything is necessary, mineral oil, or better still white vaseline in solid form, will usually be sufficient. Occasionally, when the diet is small in bulk and residue, agar at breakfast may be necessary. If any cathartics are used, they should be chosen from the milder saline cathartics. Enemas, constantly repeated, only tend to accentuate the spastic condition by repeated stimulation of an already overstimulated bowel, just as do cathartics.

Of drugs, I should think that phenobarbital is most useful. We use it in small doses, half grain at night and a quarter grain in the morning, or in smaller or larger doses as necessary. We want to give just enough to quiet the patient a little, to relax tonus somewhat in the stomach and large bowel, and not enough to materially dull the patient, or make him sleepy. I know of no definite ill effects from its use, and it has been used daily in much larger doses in one class of patients for about thirty years. In a very few patients, especially elderly patients with low blood pressure, it may on rare occasions cause confusion or disorientation and it can readily be stopped in such cases.

19. Kim, M. S. and Ivy, A. C.: Comparative Value of Gastric Mucin and Alkalies in Prevention of Peptic Ulcers in Biliary Fistula Dogs. *Proc. Soc. Exper. Biol. & Med.*, 29:686-687, March, 1932.

20. Fogelson, S. J.: Treatment of Peptic Ulcer with Gastric Mucin. *J. A. M. A.*, 96:673-675, Feb. 28, 1931.

18. Wosika, P. H.: Control of Gastric Acidity in Peptic Ulcer by Alkalinized Powdered Skim Milk Tablets. *Am. J. M. Sc.*, 195:676-682, May, 1938.

Belladonna, atropine and some of the newer drugs with an atropine-like action are valuable. They are not as suitable for constant or prolonged use as is phenobarbital. Occasionally some of the more rapidly acting and more quickly eliminated barbiturates are preferable to phenobarbital.

The use of pituitary extract intranasally still awaits the judgment of time. It apparently relaxes muscle tone, and decreases motility and secretion. In that way it should help. Results have been good, but results with any treatment can be good, and in general it is just as well to be cautious in the use of active glandular extracts. The effect of active glandular preparations is not a simple matter.

There is always also a large psychic element in any method of ulcer treatment. The same patient who receives no benefit from his physician's alkali powders may experience immediate relief from an identical proprietary powder recommended by a friend, if the friend is the better salesman.

The use of histidine hydrochloride by hypodermic injection is certainly of very doubtful value, to say the least. Any hypodermic medication is impressive, and may inspire faith, and faith goes a long way in ulcer treatment. But even if it is effective, why give frequent parenteral injections when some simple means are at least equally effective, if not more so.

In regard to complications, hemorrhage ranks first in frequency and in importance. It is a serious complication, but only rarely very serious when handled coolly and quietly, and without doing too much. In speaking of doing too much, I have special reference to gastric lavage with different preparations. I think the stomach should be left alone. There is no reason for withholding food, and a good reason for giving it at once. Carlson²¹ has shown that active secretion and peristalsis take place in an empty stomach, and Lichty²² several years ago reported a series of fatal hemorrhages following the avoidance of food by mouth, and the use of rectal feedings.

Management of such cases at St. Luke's Hospital on the service of Dr. Preble and his successors has always included feeding such patients from the start. Just at present, the Long Island College Hospital regimen, first described by Andresen²³ in 1927, is used. Details of the management and a discussion of the problem are best found in an article by

LaDue,²⁴ presented in a paper read at the recent meeting of the A. M. A. in St. Louis. Feedings are started at once, with a gelatine solution containing some lactose and orange juice.

Such feedings take care of the fluid intake, and intravenous and parenteral fluids are not necessary. In our opinion they are contraindicated because of a tendency to raise the blood pressure. The serum proteins also are already too low because of the blood loss, and there is some chance of edema of the lungs.

Transfusions certainly should not be given routinely, and are rarely necessary. If they are necessary, they should be given in small increments or by the drip method of Marriott and Kerkwick, described by Avery Jones.²⁵

The question of surgical intervention in severe and especially in repeated hemorrhage frequently arises. It is very rarely advisable. Some fatal cases of hemorrhage might be saved by operation. Some cases that would survive, if treated conservatively by medical management, die because of surgical intervention. On the whole, the operative mortality is higher than in cases treated conservatively.

Perforation, when it occurs, certainly is in the province of the surgeon, and should be operated upon immediately. If the situation seems doubtful, one should not wait to become certain. An exploratory laparotomy should be done at once. One rarely regrets such a step, but frequently regrets not having taken it.

Cases with an emptying time so delayed as to cause symptoms should be referred to the surgeon, but only after an effort has been made to obtain satisfactory results by medical management. Such cases are one group, in which lavage may be indicated as a tentative measure to try to restore a normal emptying time. In this group of cases, with a prolonged and definite residue, surgical results are excellent.

This has been a very hasty and superficial consideration of a very complex subject. I hope it has emphasized that duodenal ulcer is not a simple affair requiring only a few alkali powders, but it has many aspects; any treatment can only cause an arrest which may be temporary, and good results and relief to the patient demand that we teach him how to take care of the ulcer which is his.

21. Carlson, A. J.: Control of Hunger in Health and Disease. University of Chicago Press, 1916.

22. Lichty, J. A.: Some Clinical Aspects of Gastric Hemorrhage. *Am. J. M. Sc.*, 148:680-687, Nov., 1914.

23. Andresen, A. F. R.: Treatment of Gastric Hemorrhage. *J. A. M. A.*, 89:1397-1402, Oct. 22, 1927.

24. LaDue, J. S.: Treatment of Massive Hemorrhage Due to Peptic Ulcer. *Arch. Int. Med.*, 63:1017-1029, June, 1939.

25. Jones, F. A.: Hematemesis and Melena. *Brit. Med. J.*, 1:915-918, May 6, 1939.

STONE IN MAIN PANCREATIC DUCT

REPORT OF CASE

T. M. JOYCE, M.D.

AND

GORDON K. SMITH, M.D.

PORTLAND, ORE.

Until recently pancreatic calculi were believed to be quite rare in occurrence. However, within a period of thirteen years there has been a hundred per cent increase in the total number of cases reported in the literature, the latest report showing a total of 204 such cases.

Pancreatic calculi fall into two main groups, the first being true stones within either the duct of Wirsung or the duct of Santorini, and the second group being false stones which are found within the parenchyma of the gland. These latter calculi are resistant to surgical treatment and should not be considered in the same light as the first group. The etiology seems to be somewhat obscure, although in most cases there is disease of the biliary tract and frequently duodenal ulcer present.

Symptoms vary according to the position of the calculi and as to whether or not infection is superimposed. In other words, the pain may resemble that due to a pancreatitis, or it may be simply the pain of gallbladder disease or of peptic ulcer. According to the literature, the symptoms of diarrhea with frothy stools, jaundice and glycosuria are not common.

We are presenting a case which shows recurrent jaundice and upset sugar metabolism, abdominal pain and frequent attacks of diarrhea with typical fatty, frothy stools. As far as the diagnosis of pancreatic calculi is concerned, only seldom is it made before surgery is undertaken. Since true pancreatic stones within ducts are usually composed of calcium carbonate, they should be visible on roentgen plates. However, the majority of customary gastrointestinal studies do not include that portion of the pancreas, in which the stones are present and, therefore, they are most often missed. Another source of error is that the concretions may be mistaken for calcified lymph nodes, due to an old abdominal infection.

Treatment is purely surgical, when the stones are located within the ducts, but as stated, if false concretions are present within the parenchyma of the gland, no treatment will be of avail. Otherwise, treatment consists in taking care of the underlying disease, be it that of the biliary tract, the duodenum, the stomach or the pancreas itself.

CASE REPORT

L. B. S., 54 year old physician. First examined in the clinic Nov. 22, 1938. Past history includes tonsillectomy in 1926, bilateral inguinal herniorrhaphy in 1935, appendectomy in 1936, repair of ventral hernia in 1937; the usual childhood diseases, measles, mumps and scarlet fever, as well as quinsy and influenza in 1918. There is a long history of indigestion which, however, has not bothered him since 1934. Patient is a heavy smoker, using approximately two packages of cigarettes daily.

Present complaint is that of intestinal trouble. In 1915 to 1921 patient states that he had a duodenal ulcer with hyperacidity and abdominal pain which was relieved by food and alkalis. There was no nausea or vomiting. Perforation occurred in 1919, from which he apparently recovered without surgery. Following this his teeth were extracted and his tonsils were removed. He had no further digestive upsets until 1922, at which time he had considerable flatulence and frequent watery light colored stools, usually four or five each morning. He began taking zila-tone tablets which did not seem to relieve the condition. He had no particular abdominal pain, no distress following meals except for the flatulence. At no time has he had any blood in his stool. The patient states that he has been jaundiced on several occasions during the past three years. Six weeks before examination he found a strong reaction to sugar in his evening specimen of urine. He has been on a bland sort of diet, and during the past three years has decreased from 210 to 175 pounds in weight; tires easily, and feels considerably below par. His history is otherwise negative.

Physical examination revealed a somewhat undernourished large man in no particular discomfort. There was no evident icterus either of the skin or sclera. Teeth were replaced by dentures. There were tonsillar tags present which appeared infected. Temperature 98.4°, pulse 68, regular, B.P. 126/70. Lungs were clear. Heart was regular, not enlarged, no murmurs audible. Examination of abdomen showed bilateral hernia scars and also an old McBurney scar. Abdomen was soft, flat, with a slight amount of tenderness over the region of gallbladder. Liver was palpable with a sharp edge just below the costal margin. Examination of the rectum showed a small polyp which was seen at proctoscopic examination 20 cm. from the anus. This was removed and fulgurated. Biopsy showed it to be a benign anal polyp. The skeletal and nervous systems showed no abnormalities.

Hemoglobin was 107 per cent; r.b.c. 5,150,000; w.b.c. 6,000; polys. 52 per cent; lymphs. 39 per cent; monocytes 1 per cent; eosinophiles 1 per cent and staff cells 1 per cent. Examination of urine showed a heavy trace of albumin in both the night and morning specimens with a 4+ reaction to glucozone in the evening specimen. Fasting blood sugar was 126. Roentgen examination, direct plate of gallbladder showed a 4+ shadow. Barium meal examination showed marked deformity of duodenal bulb with irregular depression which was thought to be an old scar. The colon was negative.

A diagnosis of chronic cholecystitis with secondary pancreatitis and hepatitis and early diabetes mellitus was made. He was advised to have a cholecystectomy, to have his tonsil tags removed, to keep check on his glucose tolerance, and to watch for recurring jaundice.

The patient returned on January 10, 1939, at which time his symptoms had been essentially those already described. Right rectus incision was made; the appendix had been previously removed; the gallbladder was enlarged, thick walled and edematous; the common duct was not enlarged. Palpation over the pancreas revealed a stone about the size of a navy bean about one and one-half

inches from junction of the main pancreatic duct and duodenum. The duct was opened and the stone removed in pieces. A probe was passed into the duodenum and the duct washed out. It was carefully examined proximal to the opening made, and no further stones were found. Cholecystectomy was done and a catheter was placed into the common duct through stump of cystic duct. There was also a duodenal ulcer scar present which appeared to be healed. Pathologic diagnosis was chronic cholecystitis and pancreatic duct calculi which were reported by the pathologist to be composed of calcium salts.

The patient made an uneventful convalescence and was discharged from the hospital on the fifteenth postoperative day. He was advised to return for surgical treatment of the duodenal ulcer if symptoms persisted, as we felt this might be a major factor in prolonging the pancreatitis.

A recent communication from the patient states that he has had frequent loose stools which are not as frothy as before surgery, and that he has had several attacks of nausea and vomiting. He has had no jaundice or glycosuria, and has gained about ten pounds since leaving the hospital.

CONCLUSIONS

1. Pancreatic duct calculi are more frequent than we are led to believe, and their presence should be suspected in disease of the biliary tract or duodenum, particularly when complicated with pancreatitis.

2. Treatment consists in surgical removal of the calculus or calculi with drainage of biliary tract.

3. Diagnosis can usually be made if roentgenologic examination includes region of the head and body of the pancreas with plates as well as with fluoroscopic study.

4. A case of calculus composed of calcium salts within the duct of Wirsung, and associated with chronic disease of the biliary tract, duodenum and pancreas is presented. Surgical removal has not led to complete recovery, but a duodenal ulcer which may be active is still present.

AMERICAN COLLEGE OF SURGEONS

A sectional meeting of American College of Surgeons will be held in Los Angeles, California, at Biltmore Hotel, January 29-31. The following states will participate: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, Mexico and the Hawaiian Islands.

Among other attractive features the program offers many medical motion pictures covering all phases of surgery, hospital conferences, group clinical conferences, operative and nonoperative clinics, scientific meetings on all surgical subjects. Panel discussions will consider cancer, fractures, thyroid surgery, cardiovascular surgery, intestinal obstruction, craniocerebral injuries, thoracic surgery, hand injuries and many other topics. The conference on graduate training for surgery will be of special interest. A report will be made on accomplishments to date.

Of special interest to hospital personnel will be two breakfast conferences on Tuesday and Wednesday mornings from 8:00 to 9:30 o'clock. The Tuesday conference will be devoted to discussion of Hospital Standardization, graduate training for surgery, and cancer clinics, and the Wednesday conference to discussion of avenues through which the hospital administrator can acquire the necessary background and knowledge. Hospital executives are invited to present their special problems in connection with any of these subjects for discussion at the conferences.

UROLOGIC SHORTCOMINGS OF SULFANILAMIDE

W. RAY JONES, M.D.

SEATTLE, WASH.

Physicians are now confronted with some uncommonly discussed undesirable effects of sulfanilamide therapy which may disturb the doctor more than the patient. These include a multiplicity of mixed diagnostic and therapeutic difficulties, medical misinformation and patient psychology.

While the physician is adjusting these, it is well for him to remember that his position is not only to look after the patient's welfare and consider the public good but also to protect the physician's interests, else this drug can too easily bring discredit upon medicine in general. To these ends the utmost of discretion needs be used as to how, when and to whom to prescribe sulfanilamide.

PRESCRIBING

This prescription fulfills all prescribing requirements satisfactorily:

Codeine sulphate	gr. 1-50
Methylene blue	gr. ss
Soda bicarb.	gr. 1ss
Prontylin	gr. V
Such caps no. L	

Sig.: Three capsules every four hours, for bladder pain.

The infinitesimal amount of codeine stops all refills, copies and peddling of prescription. Methylene blue is reputed to counteract sulfhemaglobinemia and methemoglobinemia. The soda combats acidosis. Prontylin is the proprietary brand of the drug most commonly stocked.

This being a several drug prescription, though in English, confuses those intent upon later self-medication. Being in capsules renders the unused portion not easily identifiable.

EARLY SYSTEMIC ILL EFFECTS

These can be minimized by keeping the person in bed, thereby to decrease the body's metabolic waste products. The drug's inherent toxicity may merely add to the system's toxin concentration or unite with body wastes to form other more toxic substances. To date no therapeutic vehicle has been found other than rest which, combined with sulfanilamide, even lessens the untoward systemic effects as headache, malaise, indigestion, etc.^{1,2}

It is inadvisable to prescribe the drug at the urologic patient's first call. Rather should one inaugurate a regime for obtaining symptomatic relief. This gives an opportunity for studying the disease

1. Mahoney, J. F., Van Slyke, C. J. and Thayer, J. D.: Sulfanilamide Therapy in Hospitalized Gonorrhea. *Tr. Amer. Neisserian Med. Soc.* 25; 1938.

2. Marshall, E. K., Jr.: Pharmacology of Sulfanilamide. *J. Urol.* 41:8-13, Jan., 1939.

in all details, while the body is in the meantime improving its immunity status. Urologic infections are different, in that recovery is accomplished more by the development of local than systemic immunity. A thorough case study first, and then giving the drug in efficient dosages, is fundamental in treating genitourinary infections with sulfanilamide.

Making a detailed sociologic and psychologic investigation, while making the case study, may circumvent later grief. Among questions to be considered are: Is he a person of integrity or a promiser? Is he convinced regarding the necessity for scientific care or is he emotional, cultistic and a seeker after the mysterious and magic? What information can the credit bureau of the medical society or some other financial agency give? Does he speak ill of other physicians? Those speaking ill of one are given to criticising all, particularly if a newer treatment is used or finances become tangled.

If marked improvement is not manifest within four days, or if there be a recurrence of infection within seven days while under adequate dosage, sulfanilamide is unsuitable for that patient. Among reasons are that the organisms may be simply nonsusceptible or there may be complications as stones, diverticula, etc., or the infection be unduly widespread or there be a variety of little known reasons for results not being forthcoming.³

BACTERIA MAY BECOME ACCLIMATED OR CHANGE TO BE MISTAKEN FOR OTHERS

We have found entirely too many sulfanilamide "cured" gonorrheal patients who have later communicated the disease. Both gonococci and other organisms change to be nonidentifiable or mistaken for each other, if the micro slide only is relied upon.⁴

The illustrations furnish explanations. Figure 1, a cross section of an infected urethra shows that the infection is not general but localized in islands.

Figure 2, photomicrographs of smears made from urethral discharges, can explain some of the difficulties in making slide diagnoses in sulfanilamide treated patients.

Figure 2A is of a slide taken from an infected urethral island in the case of a woman who was clinically and (according to the laboratory findings) cured. That small area shown was the only diagnostic one on several slides.

A perplexing cause of confusion seen on many

slides is the presence of diplobacilli or short coliform gram-negative bacilli. The question then is, which are diplococcic-like organisms in the division stage and which are gonococci? Or are gonococci present at all? Figure 2B assists in clarifying this by showing the transition of intracellular coliform bacilli into diplococci and all within one phagocyte.

More confusion is when patients, while still under or following sulfanilamide therapy, furnish slides showing what can pass as scattered extracellular diplococcic saprophytes, gonococci, detached nuclear material or debris.



Fig. 1. Cross section of a gonococcus infected urethra. An infected island, showing loss of differentiation between mucosa and submucosa, protrudes into the center. Adjacent areas are not involved.

Figure 2C is of a slide which illustrates a mistaken diagnosis. The patient had had an infection previously which we thought to have been gonorrhea, and had taken some white tablets which were supposed to have been sulfanilamide. Upon this basis, her character and finding those gram-negative diplococci, though only an occasional pair was intracellular, a positive diagnosis was made. They were saprophytes, and she had no gonorrhea.

MAKING A POSITIVE DIAGNOSIS

Merely finding or failing to find gram-negative intracellular diplococci is passe. In connection with sulfanilamide therapy there is an appreciable percentage (at least five) of false positives traceable to other germs, showing the gonococcic characteristics of being gram-negative, intracellular diplococci. The more venereal work one does the higher will be this percentage.

A help in making slide diagnosis is finding groupings upon the epithelial cells as in figure 2D. Such deeply staining characteristically shaped organisms warrant a tentative diagnosis until one can find the typical intracellular or, by resorting to

3. Cohn, A., Jacoby, A., Kornblith, D. A. and Wishensrad, M.: Clinical and Experimental Evaluation of Sulfanilamide in Gonorrhea. *Am. J. Syph. Gonorr. & Ven. Dis.* 23:41-47, Jan., 1939.

4. Jones, W. R.: Sulfanilamide May Revolutionize Laboratory Identification of Gonococci. *Am. J. Syph. Gonorr. & Ven. Dis.* 22:349-354, May, 1938.

culture, can form a definite opinion. A related problem is the symptom-free person still yielding gonococci on the slide.

Where there is a question because of only an occasional gram-negative intracellular coccus, a modification of the cultural method of Greene and Breazeale⁵ has been found of value. The basis of this is that an applicator is inoculated with the discharge and cultured in a test tube containing enough hydrocele or ascitic fluid to saturate this

Sulfanilamide has made it most emphatic that the physician must diagnose gonorrhea upon history and clinical findings, and the laboratory merely furnish the confirmation. Physicians working in mechanized public venereal clinics, however, do not entirely agree with this.

This drug enables them to rely more upon the laboratory and handle more patients at less expense with a greater percentage of early clinical and slide cures than has hitherto been possible.

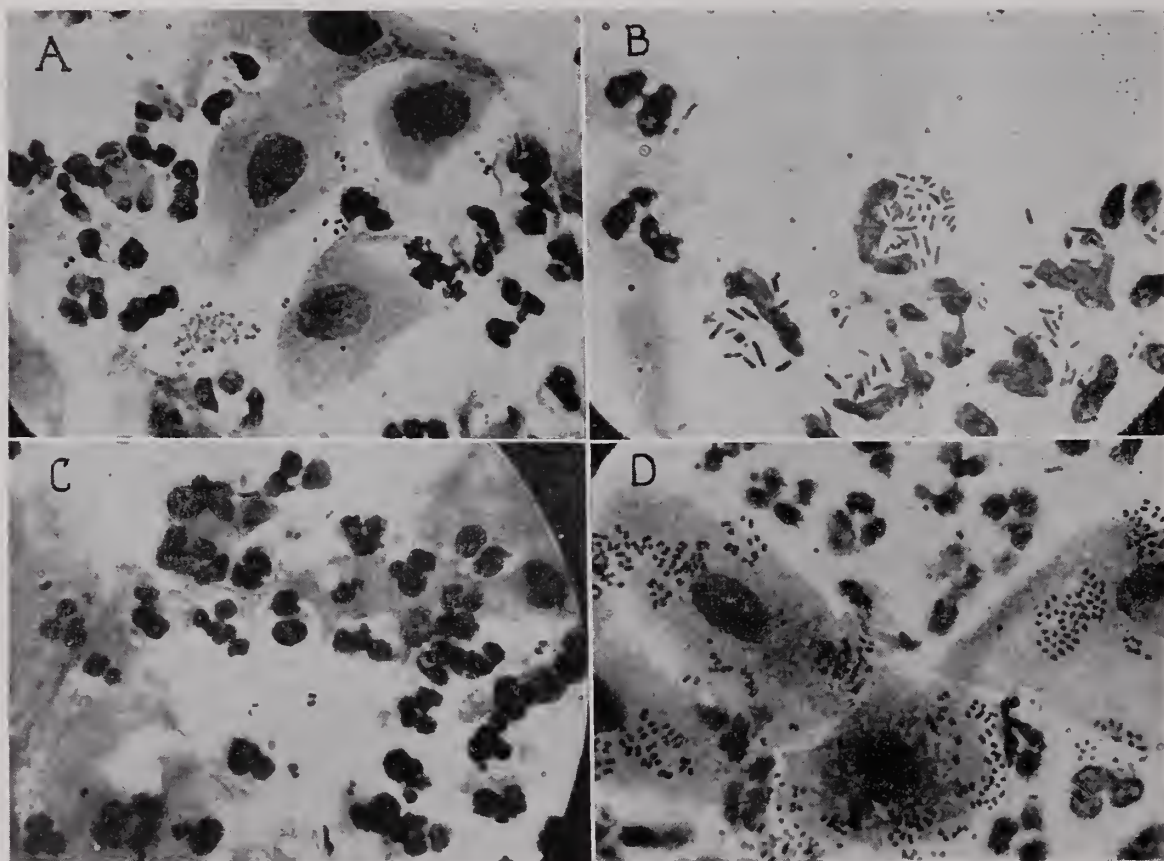


Fig. 2. Photomicrographs of urethral discharges.

A. Currettings from an island of infection. Gonococci growing in the juices about the cells. One diagnostic phagocyte in center. Woman clinically well and this the only diagnostic field found on several slides.

B. Coliform bacilli of various sizes and shapes in the same phagocyte. Being gram-negative, the shorter ones

can easily be mistaken for gonococci, particularly if only a few be present.

C. Single pairs of discrete saprophytic diplococci; some being intracellular can be mistaken for gonococci.

D. Finding epithelial cells carrying gram-negative diplococci like these, warrants a provisional diagnosis until typical intracellular organisms are found, or the organism be identified by culture.

and leave a drop in the bottom to prevent drying. The number of intracellular organisms then increases so that a smear made from this applicator twenty-four hours later may give a more typical picture. The disadvantages are that other organisms may reproduce faster than the gonococci, and the fluid must not be from one who has recently had gonorrhea. It should be preferably from one who has never had the disease.

There being a difference in the clientele patronizing the clinic and the private physician probably explains this diversity of opinion.⁶

INTRACTABLE FOCAL INFECTION

These may result either from the drug eliminating other germs which by their growth products held the offending organisms in check, or by the infection being so intense in certain areas that the drug reached it in insufficient concentration to be

5. Greene, R. A. and Breazeale, E. L.: Use of Swabs Impregnated with Ascitic Fluid in Laboratory Diagnosis of Gonorrhea. *J. Lab. & Clin. Med.* 23:1211-1213, Aug., 1938.

6. Silver, B. and Elliott, M.: Use of Sulfanilamide in 1625 Cases of Gonorrhea in Male: *J. A. M. A.* 112:723-728, Feb. 25, 1939.

effective against all. Nature under such conditions may sacrifice tissue and throw up an immune barrier around a limited area which is then permitted to necrose.⁷

One of our patients had both eyes infected. Under sulfanilamide the urethra and one eye cleared and the other made a good beginning. One small conjunctival area, however, remained involved, to eventuate in a corneal ulcer, general reinfection, necrosis, a corneal opacity.

Another patient had involvement of many articulations of the hand. Both the rheumatic and primary infection regressed except where it was over-intense in the joints and tendon sheath of a finger. Pus formed. It was drained, gonococci isolated. Ankylosis resulted and an encumbering stiff finger had to be amputated.

Focal infections of greatest intensity about the genitalia of both sexes occasionally behave likewise. A testicle was lost following an epididymal abscess. Also we have had disagreeable experiences with woman's pelvic inflammatory diseases behaving similarly.

One remedy for this is combining sulfanilamide therapy with systemic hyperpyrexia, or if infection be sharply localized, with diathermy⁸ (diathermy itself may cause necrosis). For woman's subacute pelvic inflammation the internal hot water bag after the Pulcell-Elliott method is quite helpful in relieving symptoms.⁹

If there be a failure in generating systemic resistance or the infection be unusually severe, transfusion is helpful, using blood of high antitoxin content from a person who has suffered many urinary infections, or is still a carrier of the some organisms. This covers infections other than gonorrhea.

SHOPPING PATIENTS

Sulfanilamide has made a complicated problem of those people who consult the physician only when at a loss to explain the failure of a home remedy. Psychology and salesmanship may need take precedence over medical knowledge, if one will adequately assist them. Supersalesmanship may be needed to go into details and give convincing explanations. If conditions are explained to such a person, he feels flattered that the physician finds his being a case requiring the best that science has to offer. The first step, then, is stopping all medica-

tion to learn which symptoms are due to the remedy and which to the disease, and any other whys of the failure.

PROTECTING ALL CONCERNED

Occasionally a physician may extol the merits of sulfanilamide rather than the necessity for accuracy in diagnosis and knowledge in using the drug. Patients are then given to avoiding the doctor and buying the drug themselves. The prescription given previously serves for preventing this.

When all the essential details of the local immunity status, complications, focal infections, psychologic attitude and status of the patient's general responsibility have been thoroughly evaluated, sulfanilamide therapy can well be initiated by giving neoprontosil by hypodermic. Repeating these hypodermics daily lessens the amount of drug needed by the mouth, and gives an opportunity for close clinical observations, with laboratory followups. The red color of the urine convinces the patient regarding the select activity of the drug.

Pseudocures can be obviated by keeping the patient fully cognizant of the gravity of his affliction and the necessity for carefully controlled therapy. If he has been convinced regarding the necessity for careful guidance and particularly the necessity for complete eradication of the last remaining microbe, he appreciates being permitted to return for observation long after apparently well. It is advantageous to make the charges for these late calls nominal, and that the patient's returns be on his pay day.

CONCLUSIONS

1. Sulfanilamide has complicated the physician's work, and even though if but routinely used, will benefit a larger percentage of infected patients than any other one therapeutic vehicle.

2. The urologist's patients are those who have found routine treatment wanting and they must be given something better for relief.

3. More comprehensive clinical and laboratory work is now needed, else sulfanilamide will render doctors mere prescription writers, gambling on a single therapeutic measure for treating all human ills.

4. The public is too intelligent to permit this; hence we must supply the demand for better therapy and recognize the uses and limitations of this drug.

5. In using this drug we must remember that we have obligations not only to the patient and public but also to all physicians, and remember to reflect credit upon the medical profession.

7. Kahn, R. L.: Tissue Immunity. C. C. Thomas, Springfield, Ill. 1936.

8. Owens, C. A., Wright, W. D. and Lewis, M. D.: Value of Fever Therapy in Sulfanilamide Resistant Gonorrhea. J. Urol. 40:847-853, Dec., 1938.

9. Purcell, H. M.: Heat in Pelvic Inflammation. Description of Cheap Apparatus. Southwestern Med. 19:281-285, Aug., 1935.

PHYSIOLOGY OF UTERINE MUSCULATURE IN PREGNANCY AND LABOR*

A. C. IVY, M.D.

CHICAGO, ILL.

GROWTH OF UTERUS DURING PREGNANCY

The following statements are based chiefly on observations on the rabbit:

1. During first two trimesters uterine muscle grows rapidly. Growth can be caused also by simply inserting paraffine pellets or a balloon into the uterus of a nonpregnant animal. Growth is speeded by progesterone and retarded by estrone. This growth consists of both hypertrophy and hyperplasia of the muscle cells. Thus, growth of the uterine musculature is due to mechanical and hormonal factors. The anterior lobe affects the uterus chiefly via the ovaries.

2. After first two trimesters, growth of muscle practically ceases. Yet the fetus continues to grow. The muscle fibers obviously relax to accommodate the growing products of conception. This relaxation places the uterine muscle in a condition to respond to a "stretch stimulus" because an "accommodative relaxation" limit will be reached; it also places the muscle fiber in a lengthened state in which it can do greater work.

INITIATION AND PROGRESS OF LABOR

1. The extrinsic nerves and the uterovaginal ganglion are not necessary for initiation and progress of labor, because they may be destroyed without interfering with onset and progress of labor. Women with paralysis of lumbar and sacral portion of the cord have become pregnant and manifested normal labor, save bearing down. But movements of the vagina are interfered with when extrinsic nerves and ganglion are excised in the dog; the last pup is not evacuated from the vagina. Extrinsic nervous influences may affect the cervix, however, although this has not been directly proved. For example, stimulation of the nipple causes contraction of the uterus. This is called the mammo-uterine reflex. That distension of cervix increases uterine contraction and psychic states affect the cervix are indirect points of evidence. That psychic factors retard the dilation of the cervix is believed by numerous obstetricians. In some lower mammals electric stimulation of hypogastric and pelvic nerves definitely affects uterine motility, but this apparently does not occur in the dog and monkey.

2. Are the ovaries necessary for normal term and labor?

A. Existing evidence shows that physiologic estrogens cause production of an endometrium which is unfavorable for placentation, and increase both spontaneous activity and reactivity of the myometrium. Progestational substances cause production of an endometrium which is favorable for nidation and maintenance of pregnancy and decrease or annul both spontaneous activity and reactivity of the myometrium.

B. Ovaries are not necessary in guinea pig, cat, monkey and man. However, in these animals the placenta or adrenal cortex may have progesterone. The corpus luteum does not persist fully developed throughout pregnancy.

C. The ovaries are necessary in rat, mouse, dog, goat, opossum, squirrel and rabbit. In these animals the corpus luteum persists throughout pregnancy. Ovaries are not necessary in the rat, if all but one fetus is removed. This is explained by assuming that the placenta or adrenal cortex makes progesterone to inhibit the uterus when it is distended by one fetus but not by a larger number. Pregnancy can be maintained in the ovariectomized rabbit with progesterone. It is believed that the placenta of some animals makes estrone and progesterone, which does not rule out these ovarian hormones as being concerned in the initiation of labor, when the ovaries are removed after the first trimester.

In late pregnancy estrone is made by the placenta (apparently) in increasing amounts and is excreted in urine in a relatively inactive or conjugated form. In the last two weeks the conjugated form decreases and the active form increases. This applies to woman. Inactive progesterone (pregnanediol) increases in the urine along with estrone. Twenty-four hours before delivery it disappears almost completely from the urine. This applies to woman. These observations suggest that labor starts when progesterone, which is thought to inhibit uterine motility, production ceases, so that the estrone and the stretch stimulus are free to operate.

3. Adrenals are not necessary in the dog and rat when fed high sodium and low potassium diet. This diet maintains the adrenalectomized animal without use of cortin, the adrenal cortical hormone.

4. Is the hypophysis necessary for labor? In case of the hypophysis one must consider both the anterior and posterior lobe.

The hypophysis is said not to be necessary in rats, mice, cats and guinea pigs. However, in rats

*From Department of Physiology and Pharmacology, Northwestern University Medical School, Chicago.

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and guinea pigs onset of labor may be delayed; this obviously may represent prolonged labor, if the animals are not carefully observed at all times which was not done. In cats and guinea pigs labor may be difficult and prolonged, when only the posterior lobe is destroyed, although term is not lengthened. Hypophysectomy is said to cause abortion or premature labor in rabbits and dogs. This may be an instance of traumatic abortion. Yet abortion may be due to the possibility that removal of the anterior lobe leads to atrophy of the corpus luteum.

Observation of abortion in dogs after hypophysectomy does not check with prolonged labor in cats. The cats referred to above had diabetes insipidus which may have prolonged labor, due to disturbance of salt and water metabolism. Uterine activity is affected markedly by its salt or calcium, magnesium, potassium content (*vide infra*).

Pituitrin given to rats on the seventeenth day in five unit doses every two hours for ten hours did not cause premature labor in our experiments, which one would think should happen if the oxytocic principle of the posterior lobe is necessary for normal labor.

The fact that labor does not occur indicates that the hypophysis is not necessary *per se*. As in the case of the ovaries, it appears as if any adjunctive role that the hypophysis plays may be subject to species differences, and is not a direct or an essential role.

In animals, in which the ovaries are essential for the maintenance of pregnancy, one would think that the anterior lobe would be necessary for the maintenance of pregnancy, because the corpus luteum or ovary must be kept functioning.

The adrenals may produce some progesterone, or exert a progesterone-like effect on the uterus, but they, like the ovary, atrophy after removal of the anterior lobe. The thyroid may also be concerned, since it affects growth and metabolism of cells and is reported to be of benefit in some patients who abort.

So, the relation of the hypophysis to the onset and progress of labor is very complex. In animals, in which the ovaries are not necessary for the maintenance of pregnancy, either the placenta or the adrenals must apparently produce progesterone or some substance which holds the uterus in check until the term of pregnancy is completed.

5. The placenta. According to present evidence the placenta appears especially in the rat to be the

chief factor concerned in the onset of labor. After labor has been started the result depends on the nutrition and coordinated activity of the uterine musculature. The evidence follows:

A. The fetus is not necessary for maintenance of pregnancy in rats, and clinical evidence indicates that the same is true of woman. When one removes the fetuses in rats, the placentae are delivered at term. When one removes the fetuses in rats, and then removes one-half of the placentae, and substitutes paraffine pellets for the fetuses, the pellets and placentae are delivered at term. When one removes the fetuses and placentae and puts in pellets, the pellets are promptly aborted.

B. Thus, the uteroplacental complex appears to be the most important factor concerned in maintenance of pregnancy and onset of labor. The cause of labor may be senility and cessation of function of the placenta of such a nature that progesterone is not produced. In absence of its inhibitory effect, the effects of estrone and stretch on muscle fibers cause labor to start.

Evidence of senility or early involution of the placenta are present at six months in woman. The Langhans cells, which are known with some assurance to produce anterior pituitary-like factor in pregnancy urine, begin to disappear even before the sixth month, after which time much anterior pituitary-like is not produced in significant quantities.

EFFECT OF ELECTROLYTES ON UTERINE MUSCULATURE

Calcium. Most is known about calcium. It is necessary for tone and motility. It is necessary for response to oxytocics. It will improve tone and motility and response to oxytocics. A progestin treated uterus which does not respond to oxytocin may respond if calcium is given (*in vitro*). Potassium tends to increase the irritability of the uterus but to a less degree than calcium. Magnesium abolishes or decreases spontaneous motility, but enhances the response to oxytocin.

These observations are pointed out because progesterone may be substituted for corticosterone (cortin) in the maintenance of the life of adrenalectomized animals. Progesterone and cortin probably play their role in animal economy by regulating electrolyte and water balance between the extra and intracellular fluids (e. g., this relates to menstrual edema, the dilution anemia of pregnancy, the relation of sodium, potassium, chlorine, calcium and water to the hydration of the body).

ANATOMIC AND PHYSIOLOGIC DIVISIONS OF PREGNANT UTERUS NEAR TERM

This is a subject that has been greatly confused, because our knowledge of the gross and microscopic anatomy of the human uterus and of embryology and comparative anatomy and physiology of the uterus has developed in a haphazard manner and the facts have not been correlated until recently. A correlation of the known facts practically establishes Aschoff's divisions of the human uterus (fig. 1).

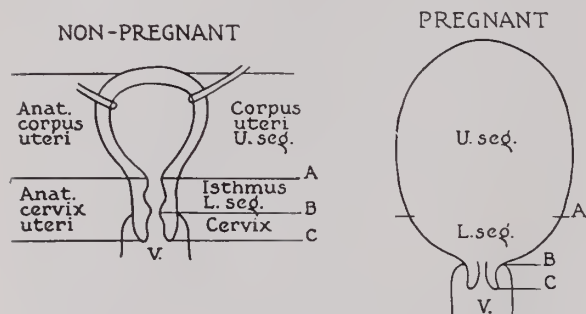


Fig. 1. Divisions of human uterus. Grossly the non-pregnant uterus appears to be divided only into two parts, the corpus and cervix. Histologically, and from the viewpoint of comparative embryology, physiology and anatomy, the uterus pregnant and nonpregnant is divided into three parts, the corpus uteri or upper segment, the isthmus uteri or lower segment, and the cervix. A is junction of upper and lower segments and B junction of lower segment with the cervix, at which site is found the cervical sphincter in dog and monkey.

1. Upper uterine segment. The corpus uteri; the uterine horns in the dog, cat and cow. The embryo is normally implanted in this segment.

2. The physiologic retraction ring or contraction ring of Schroeder. This appears during labor at the junction of upper and lower segments. It is a more or less definite ledge, the formation of which is due to the greater thickness or retraction of muscle fibers of the upper than the lower segment. This ring is the fundal or cornal sphincter in the dog. In obstructed labors it becomes a very pronounced ring or band and is then called Bandl's ring. The appearance of a Bandl's ring means threatened rupture of the uterus in lower segment.

3. The lower uterine segment, which is analogous to the isthmus uteri of Aschoff in the non-pregnant uterus. In woman its upper level is generally marked by reflection of the peritoneum. The musculature of the isthmus in pregnancy like the upper segment or corpus undergoes definite hypertrophy and is evident at three months. The placenta normally is located above the upper limit of the isthmus, i. e., in the corpus or cornua.

4. The cervix.

A. The cervical sphincter, which is located at the level of the fornix or at the junction of cervix

with lower segment, or at the upper end of the histologic cervical canal. This sphincter definitely exists in the dog and monkey, and some obstetricians report its presence in woman (fig. 2).

B. The external os, which becomes quite soft and patulous in pregnancy, could not normally offer much resistance to the exit of the fetus.



Fig. 2. This is a longitudinal section through lower portion of the isthmus uteri of the dog, cervical sphincter, the wall of vagina and tip of cervix or region of external os. The cervical sphincter is located between A and B.

Products of conception early in pregnancy occupy the fundus or upper segment of the uterus. As the products increase and the uterus grows, the isthmus uteri enlarges, a definite lower segment is formed and products of conception also occupy the lower segment.

The anatomic and functional division of the uterus into an upper and lower segment is demonstrated by a study of the comparative anatomy and physiology of the uterus and is generally recognized by obstetricians. The upper segment is relatively more active and "stronger" than the lower segment. Such a statement does not imply that the musculature of the lower segment is inactive, because it manifests resistance to stretch (tone) and it contracts very actively under certain conditions. When labor is obstructed as in the case of a small or deformed pelvis or malposition of the fetus, the lower segment ruptures, if not relieved by the obstetrician. In various stages of labor the lower segment is only relatively passive when compared to the upper segment. That is, most of the expulsive work of the uterus is performed by the upper segment.

PROPERTIES OF UTERINE MUSCLE

The four major properties of uterine musculature are the same as those possessed by smooth muscles in general: (1) contraction, (2) relaxation, (3) adjustments in length without change in intrauterine tension, (4) coordination.

1. Contraction. When the uterus contracts, intrauterine pressure rises equally throughout, but because of the anatomy of the uterus pressure is exerted on the breech of the fetus and the presenting part tends to descend or efface and dilute the cervix and cervical sphincter. Contraction costs food energy. Unless food and adequate oxygen are available, the uterus will become exhausted. If properly nourished, the uterine musculature should be difficult to fatigue; for example, note that the stomach and intestine in many animals work day and night.

2. Relaxation. Pressure in the uterus returns to previous levels. During the period of relaxation and rest that follows a contraction, properly nourished muscle returns to its original chemical state.

3. Adjustments in length without changes in intrauterine tension.

A. Metrostasis. A relative fixation of the length of the muscle fiber at which it contracts and relaxes. For example, the stomach, when one eats, increases the length of its muscle fibers without change in intragastric tension. As the stomach empties, the length of the muscle fibers decreases without change in intragastric tension. Intragastric tension, of course, increases and decreases during contraction and relaxation.

When muscle fibers increase in length and at the increased length manifest the same tension as before, a metrostatic adjustment has occurred. To denote the directional change in length, we use the expression "mecystatic adjustment" to denote that the muscle has relaxed or become elongated and has become relatively fixed at an increased length; we use the expression "brachystatic adjustment" to denote that the muscle has shortened or after contracting it does not return to its original length.

B. Mecystasis. An increase in length of the fibers at which they manifest resistance to stretch, contract and relax, but manifest the same tension as before. If mecystasis of uterine fibers did not occur in the latter stage of pregnancy, the fibers would either have to grow in length or a gradually increasing intrauterine tension would result. This latter phenomenon does not normally occur. If mecystasis of the cervical sphincter did not occur, then after each uterine contraction the sphincter

would contract to its former state. Instead, the cervix shows mecystasis normally after each vigorous contraction. If mecystasis did not occur, a continuous uterine contraction with continuous intrauterine tension would be required to hold the cervix open, and then it would be fatal for the fetus. If mecystasis of the cervix occurred too rapidly, a precipitate labor would occur.

C. Brachystasis. A decrease in length of the fibers at which they manifest resistance to stretch, contract and relax, but manifest the same tension as before. If brachystasis of the upper or lower segment did not occur, the cervix could not be dilated because, as the cervix dilates, slack created in the uterine fibers must be taken up. Slack could be taken up by sustained active contraction, but this would be uneconomical, provide no rest period, lead to early exhaustion of the uterus, and probably be fatal for the fetus. If brachystasis did not occur after descent of the head was caused by an active contraction, advantage gained by the contraction would be lost during relaxation and no progress would be attained. A continuous active contraction of the uterine fibers would compensate for lack of brachystasis but would be an expensive and exhausting mechanism. If brachystasis did not occur after separation of the placenta, bleeding from the placental site would be excessive and probably fatal.

It is known that contraction and relaxation can occur without progress in labor. This is probably due to a lack of brachystasis, or retraction which is the consequence of brachystasis of the individual muscle fibers.

METROSTATIC ADJUSTMENTS IN UTERUS

During pregnancy, when growth of uterine fibers has ceased and the fetus continues to grow, the fibers relax or elongate to accommodate the fetus without a change in intrauterine tension, like the stomach or urinary bladder that is being filled. This is a mecystatic adjustment.

During labor. First stage. During contraction the head (presenting part) "dilates" the cervical sphincter. If the sphincter contracted to its original state after each uterine contraction, dilation of the sphincter would not result. The sphincter dilates after each contraction and does not return completely to its original diameter, so a mecystatic adjustment results. The slack created by dilation of the cervix must be taken up, so a brachystatic shortening must result either in the upper or lower segment or both. In the monkey brachystatic short-

Showing the Possibilities for Brachystasis and Retraction during dilation of the Cervical Sphincter

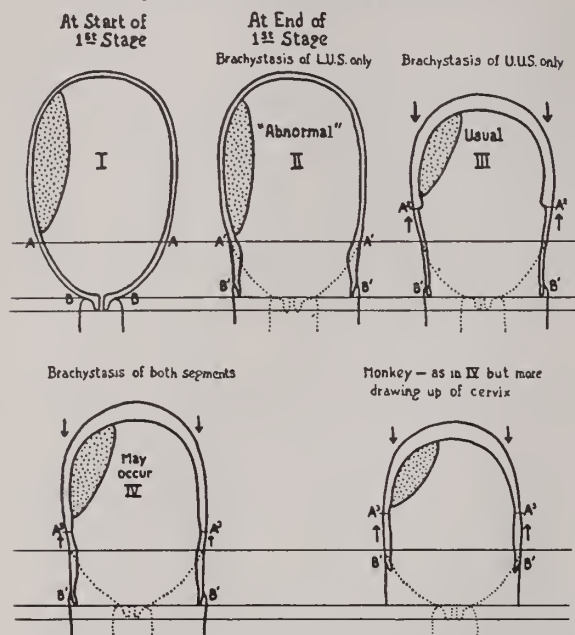


Fig. 3. I represents the condition at the start of the first stage; AB represents lower uterine segment. II represents what would occur during dilation of the cervix, if only the lower uterine segment retracts or if only its fibers manifest brachystasis. The shortening would involve A1B1. III represents what is said to be the usual type of retraction in woman; that is, retraction or brachystasis occurs only in the upper segment, the lower segment being represented by A2B1. IV represents what would happen, if retraction or brachystasis occurred in both segments, the lower segment being represented by A3B1. In the monkey, retraction occurs in both segments and more pulling-up of the cervix occurs than in woman.

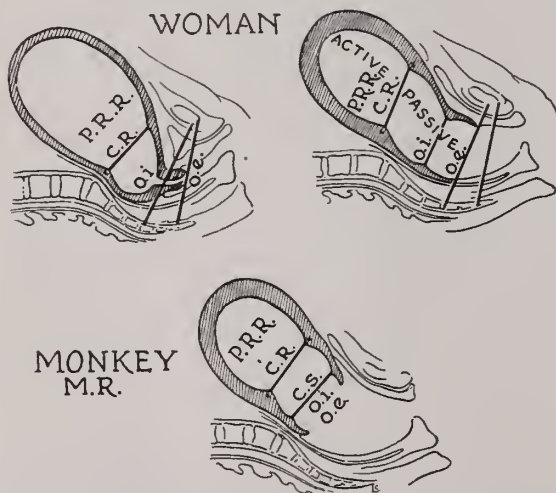


Fig. 4. Shows uterus at start and end of first stage of labor in woman and at end of first stage in monkey. P.R.R., physiologic retraction ring or C.R., contraction ring. O.I., internal os and O.E., external os.

ening occurs in both the upper and lower segments (figs. 3 and 4).

Second stage. This stage begins when the cervix is completely dilated. It is chiefly the stage of descent of the presenting part. The head descends with each uterine contraction; during uterine relaxation it rises a little, but does not return to the

former level because brachystatic shortening of the upper and lower segment, chiefly the upper, occurs. After birth of the head a temporary arrest in descent is frequently observed. This means that several contractions must occur, or some time must elapse to permit sufficient brachystatic shortening to occur so as to bring the uterine musculature in firm contact with the hind parts, and again to pull taut the uterovaginal attachments. The cervical sphincter may contract to some extent about the neck and dilates again about the shoulders as the evident contractions start.

Third stage. After birth of the infant, the corpus contracts and manifests much brachystatic shortening. Several contractions and much brachystasis may be required to separate the placenta and to close the maternal blood sinuses. That the latter result is not effected rapidly is shown by the occurrence of retroplacental hematoma. Obviously the placenta separates by contraction of the uterine fibers and the hematoma forms in the cavity created, due to incomplete closure of the maternal sinus. A hematoma cannot form until some placental separation occurs. It is the result and not the cause of placental separation, although it may favor further separation. After a varying period the placenta is expelled, the corpus as a whole contracts firmly, becoming almost completely a pelvic organ. The L. U. S. remains flaccid for several hours.

Then, after a period the uterus relaxes, becoming an abdominal organ, but manifests much brachystatic shortening, in which condition it manifests rhythmic postpartum contractions for several days.

RÔLE PLAYED BY VARIOUS ACTIVITIES OF UTERINE MUSCLE

Contraction provides the force which is necessary for evacuation.

Relaxation and the rest period permit recovery of the metabolic or chemical state of muscle and probably of maternal blood supply to the fetus. (The placental site is relatively inert or passive, however, during contractions.)

Metrostasis permits the maintenance of volumetric and postural adjustments at very low energy cost and without continuous maintenance of intrauterine hypertension.

COORDINATION OF UTERINE MOTILITY

Anyone who knows physiology and has studied and visually observed the mechanism of evacuation of the uterus in the rabbit, dog and monkey, soon becomes convinced that a coordinating mechanism for uterine motility exists. The nature of this co-

ordinating mechanism is unknown, although it has been shown that the uterovaginal ganglion is involved (dog) and an independent mechanism exists in the uterus. Purkinje tissue has been described in the uterus but the evidence is equivocal. The evidence is against a nerve net mechanism. Some evidence favors a muscle fiber to muscle fiber mechanism of conduction.

Dog. In the postpartum dog many of the waves of contraction start at the insertion of the fallopian tubes; but they still occur after excision of the tubes and the tissue about their area of insertion, and normal labor results after excision of the tubes and apex of the pregnant horns.

Monkey. Wave of contraction (fig. 5). In the monkey's uterus the wave of contraction may be divided into three phases: (1) a wave of contraction starts on both sides about insertion of the tubes (pacemakers) and spreads medially in enlarging concentric waves; (2) by the time they meet in the midline, longitudinal shortening is evident in the midline, longitudinal shortening is evi-

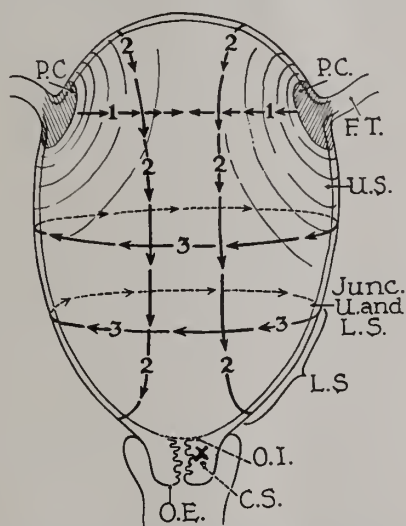


Fig. 5. Show wave of contraction in pregnant uterus of monkey in labor. P.C., pace maker. 1, Concentric rings passing from P.C. about insertion of tubes (F.T.) toward midline. 2, Longitudinal shortening. 3, Circular waves of contraction. See text.

dent and continues; (3) shortly after the longitudinal shortening is evident a circular contraction, somewhat peristaltoid in nature, appears to spread from above downward. Then cervical sphincter can be felt and observed to dilate. The placental site manifests some contraction, but is relatively inert; it manifests some brachystasis during the first and second stages of labor, and marked brachystasis during and after the third stage.

If a wave of contraction starts only from one pacemaker, then an obliquity of the uterus occurs.

Polarity. That the uterus of woman manifests a definite polarity has been maintained for years by some obstetricians. The contraction moves

caudalward. In the dog we have occasionally seen it reverse; the fetus retreated from the fused portion of the uterus (lower segment) into the ampulla in the horn (upper segment). We have seen contractions occur in the fundus (horns) after distension of the cervix and upper vagina. This may be the basis of induction of labor by placing a bag in the cervix and lower segment.

Extrinsic nerves and labor. The uterovaginal ganglion receives nerves from the hypogastric ganglion (sympathetics from the lumbar chain) and from the nervi erigentes or pelvic nerves (sacral division of the autonomic).

In the rabbit extrinsic nerves unquestionably affect uterine and vaginal motility. In the dog real movements of the uterus have not been obtained by stimulation of extrinsic nerves. The same is true of the monkey. The vagina will contract, however.

Labor will start and proceed normally in the absence of extrinsic nerves and uterovaginal ganglion in the dog, except that the last fetus is not evacuated from the paralyzed vagina.

Reflex contraction. Contractions of the postpartum uterus of the monkey can be elicited by stimulation of the nipple of the mammary gland. I have seen the same in the goat. The mechanism by which these contractions are elicited is unknown.

Pregnancy and labor have been known to occur in women with paralysis (transverse myelitis) of the lower portion of the spinal cord.

I believe that nervous factors may retard dilation of the cervix and disturb the pelvic mechanism concerned in birth. It is reported that in woman a sacral anesthesia favors dilation of the cervix.

CONSTRICTION RINGS

It is well known that constriction rings may occur in the human uterus and cause dystocia. The most likely place for them to occur from a physiologic viewpoint is at the level of the cervical sphincter; next at level of the physiologic retraction ring or junction of upper and lower segments. Clinically it is reported that most constriction rings occur behind or at the upper level of the symphysis pubis.

There are apparently two types of constriction rings; the reversible and the irreversible. Reversible rings may disappear spontaneously after a sedative and rest, after epinephrine, and after ether or an anesthetic. Irreversible rings seem to be fixed like an ideomuscular contracture, a "charlie-horse," a fixed spasm in the stomach or intestine. They do not relax on death and are evident in frozen sections of the uterus made sometime after death.

PLASTIC INDURATION OF THE PENIS*

FRANKLIN P. JOHNSON, M.D.

PORTLAND, ORE.

The term "plastic induration of the penis" is used to denote a relatively rare clinical entity and one which is only occasionally seen by the general practitioner. It is a disease which has been known for many years, having been first described in 1743 by LePeyronie, physician to Louis XV. He pointed out the salient features of the condition and, although numerous papers have appeared on the subject since, comparatively little has been added to our knowledge.

The disease is characterized by the formation of a fibrous mass in the penis, constantly on the dorsum of the shaft and in relation to the cavernous bodies. In fact, the induration lies within the sheath of the corpora and, although this is normally a tough firm tissue, in the diseased condition a circumscribed area of it presents a thicker, harder and less elastic mass. Quite descriptive is the multiplicity of terms which have been applied to the condition, among which may be mentioned fibrosclerosis, fibrous cavernositis, circumscribed fibrosis, fibrous tumor, primary indurative cavernositis, ganglia, nodes, Peyronie's disease, etc. However, the term plastic induration is now widely accepted in this country as well as abroad and most of the synonyms are now rapidly falling into disuse.

INCIDENCE

From cases reported in the literature it would appear that plastic induration of the penis was a rare disease. Sonntag¹ collected 200 bona fide cases. A more extensive survey by Polkey² revealed a total of 549 cases. Kretschmer and Fister³ reported that thirteen cases had been seen by Callomon in seventeen years, ten by Etienne in fourteen years and twenty by Galewsky and Weiser in twelve years. Walker reported fifteen cases, Sachs eight, Levenant twenty-one, Bromberg seven, and Fister and Kretschmer fifteen. My associate, A. E. Mackay, and I have seen not less than twelve cases in the past ten years. Unquestionably other urologists have seen equally as many but have not reported them and undoubtedly many cases have gone unrecognized.

It is evident, therefore, that the disease is not as rare as the reported cases would lead one to believe.

PATHOLOGY

The disease affects either the dorsum or sheath of the corpora cavernosa penis, the septum between the corpora or both of these structures. It takes the form of an elongated node or thickening of these tissues and to the palpating fingers feels dense, hard and resistant, apparently an actual thickening of the sheaths themselves. The form of the thickening is usually a flattened elongated plaque, extending lengthwise with the penis and most frequently situated in the middle portion of the shaft. It may, however, be larger at one end than the other (spatula-like), circular, or take the form of a wedge between the two cavernous bodies. The direction of continued growth is more frequently toward the root of the penis rather than toward the glans. The rate of growth varies but it is known to be progressive, very seldom retrogressive.

The location in 312 cases collected by Polkey was as follows: Near the glans 66 cases; near the root of the penis, 73 cases; near the middle of the shaft, 77 cases; entire length of penis, 41 cases; on the dorsum of penis, 40 cases; within the corpora cavernosa, 15 cases.

HISTOLOGIC STRUCTURE

The histologic picture presented by plastic induration of the penis is quite typical of dense scar tissue formed elsewhere in the body as the result of wounds. It consists of large bundles of collagen fibres running in all directions, greatly resembling keloid. Interspersed between the bundles of fibers are spindle-shaped cells with rather poorly staining nuclei, the so-called "fibroblasts." Between adjacent bundles of collagen fibers are a few small blood vessels. As in keloid, there is a marked lack of elastic fibrils in the tissue as brought out in Weigert and Mallory stained specimens. I am unable to detect any thickening of the adventitia of these vessels as described by Weidhoff⁴ and which he interprets as the starting points of the induration.

Characteristic of this tissue is a lack of inflammatory reaction. There is no round cell infiltration or increase in the number of white blood corpuscles or plasma cells above that seen in normal fibrous tissue of this type.

ETIOLOGY

The cause of plastic induration of the penis still remains unknown. In the past, various theories have been proposed and numerous causes attributed

*From Department of Urology, University of Oregon Medical School.

*Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Gearhart, Ore., Sept. 6-9, 1939.

1. Sonntag: *Über Induratic penis plastica*. *Arch. f. Klin. Chir.*, 117:612-646, 1921.

2. Polkey, H. J.: *Induratic Penis Plastica*. *Urol. & Cutan. Rev.*, 32:287-308, May, 1928.

3. Kretschmer, H. L. and Fister, G. M.: *Plastic Induration of Penis*. *Jour. Urol.*, 16:497-514, Dec., 1926.

4. Wiedhopf, O.: *Histology of Plastic Induration in Penis*. *Beitr. z. klin. Chir.*, 121:712-719, 1921.

to it. Among these may be mentioned trauma, venereal disease, gout, diabetes, rheumatism, tuberculosis, alcoholism, infectious diseases, etc. Kretschmer and Fister, while not definitely attributing concurrent or antecedent history of constitutional disease as a causative factor, point out that in their group of sixteen cases this was striking, gonorrhea, syphilis, diabetes, nephritis, abscessed teeth being especially notable. The possibility of focal infection as a causative factor is dismissed by them as being far-fetched.

Those indurations of the penis which are definitely known to follow acute cavernositis, rupture of the penis from trauma, syphilis, etc., have been regarded as entirely different etiologically and pathologically from plastic induration and have been placed in a separate category.

Plastic induration has a structure resembling that of keloid, although in most cases a history of traumatization is absent. It has some of the characteristics of a postinflammatory scarring but there is usually no history of inflammation and the size of the lesion increases over a period of time. By its continued growth it resembles a neoplasm, yet is uncircumscribed and nonencapsulated. It attains a maximum growth and then discontinues to increase in size and density. Moreover, malignant degeneration of the lesion has never been known to occur.

SYMPTOMS

The age incidence of plastic induration of the penis in 100 collected cases is as follows:

Decade	Per cent
20 - 29	6
30 - 39	9
40 - 49	26
50 - 59	38
60 - 69	15
70 and over	6

It will thus be seen that about two-thirds of all cases belong to the fifth and sixth decades of life.

The onset of the disease is insidious. The patient usually becomes aware that something is wrong through pain or difficulty during coitus. His own examination reveals a node or thickening in the dorsum of the penis. As time goes on the symptoms become more aggravated and usually by the time he consults a physician the disease is well developed.

The one constant symptom of plastic induration is deformity of the penis. This is characterized by a dorsal curvature (concavity facing upward) and is frequently spoken of as "dorsal chordee." Usually combined with the dorsal angulation is a bending to one side or the other. The degree of angulation is dependent in part upon the extent of the lesion and in part upon its position, the curvature being

greater in those cases where the angulation is near the base of the penis and less where it is near the glans. The curvature is believed to be due to the decreased elasticity and increased fibrosis of the dorsal portion of the tunica albuginea. In those cases where there is a lateral curvature as well as dorsal, the concavity occurs on the side of the node, thus supporting the above hypothesis (fig. 1).

Pain, though not constant, is a frequent symptom. It is usually present only during erection and disappears when the penis becomes flaccid. The pain is described as a sensation of tightness, strangulation or constriction, cramp-like in character. Although usually mild, in a few cases the pain is occasionally agonizing. In the majority of cases coitus becomes difficult or impossible, due either to pain, degree of deformity, or both.

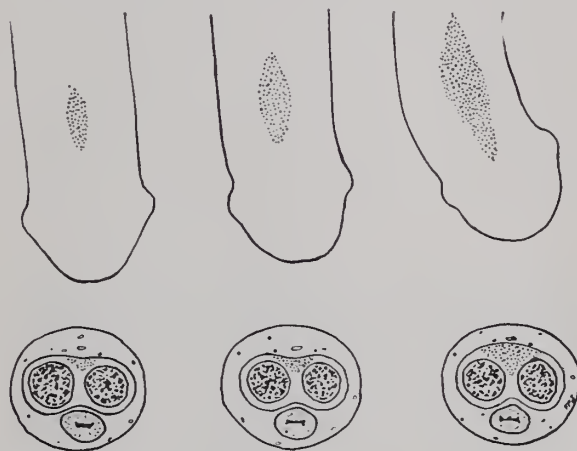


Fig. 1. Three stages in development of plastic induration of the penis. The plaque grows in all three dimensions and spreads into the septum of the penis.

A tabulation of the most important symptoms is an analysis of 251 cases by Polkey is summarized as follows:

Symptoms	Cases	Per cent
Painful and difficult erections.....	103	41.2
Painful ejaculations	5	2.0
Painful and difficult urination.....	7	2.8
Tender induration	21	8.4
Angulation of penis upwards.....	182	72.8
Angulation of penis downwards.....	4	1.6
Angulation of penis laterally.....	50	20.0
Tortuous curvature pronounced.....	3	1.2
Constriction with flaccidity.....	11	4.4
Coitus impossible	72	28.8

DIAGNOSIS

Diagnosis of plastic induration is readily made from the history and examination. The history of dorsal angulation of the penis during erection, accompanied by a thickening and hardening of the tissues on the dorsum of the tunica albuginea, is usually sufficient. Dorsal chordee on erection is, for obvious reasons, seldom seen by the physician. The condition must be differentiated from inflammation,

both acute and chronic, arising from such causes as gonorrhea, chancre and other granulomata, abscesses, tuberculosis, gumma, traumatic sclerosis caused by fracture of the penis, wounds of various kinds, and from tumors of the cavernous bodies, both primary and secondary.

TREATMENT AND PROGNOSIS

Treatment of plastic induration is far from satisfactory. Of the various methods used those which have proven of any curative value whatsoever are surgical removal, roentgen radiation and radium therapy. Other measures, such as baths, massage, arsenic, fibrolysin, etc., are mentioned in the literature as having produced an occasional cure but, inasmuch as an occasional cure results spontaneously without treatment, the benefit from these measures is unproven.

That surgical removal offers the best chance of cure is the consensus of opinion among those who have reported on this subject. The operation consists of excision of the mass of fibrous tissue. Because of hemorrhage a tourniquet is placed around the base of the penis before dissection is begun. The hardened nodule or plaque of fibrosed tissue is excised through a longitudinal incision, care

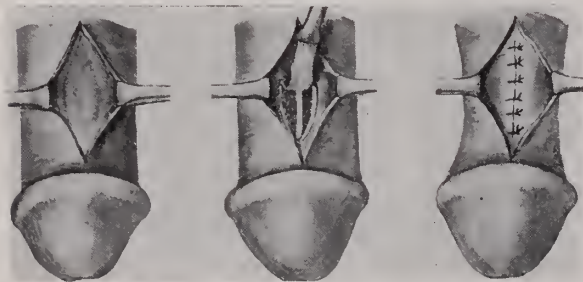


Fig. 2. The skin is first incised longitudinally and the dorsal vein preserved. Excision of the indurated plaque exposes the erectile tissue which is closed with chromic catgut.

being taken to avoid the median dorsal veins and not to injure the corpora cavernosa too severely. After removal the defect in the tunica albuginea is sutured longitudinally with chromic catgut (fig. 2). Any hemorrhage following the removal of the tourniquet is controlled by pressure.

Roentgen and radium therapy have proven of value in a few cases but in the great majority fail to cure or even retard progress of the disease (Waters and Colston⁵).

Prognosis in plastic induration is not good. Fortunately the disease is self-limiting and the fibrous mass, after attaining a certain degree of

development, ceases to grow. In an exceptional case there is a spontaneous cure but in the majority of cases the deformity persists throughout the remainder of life.

From the standpoint of therapy, therefore, surgical removal offers the greatest hope. Unfortunately recurrences are frequent, as a traumatic fibrosis may take the place of the removed fibrosis. Moreover, the operation is liable to result in a flail penis. No exact statistics are available on the operative results attained but those found show that a cure results in less than 50 per cent of cases.

In regard to etiology of the disease I wish to offer the following hypothesis: that the disease is due to traumatization, that through continued use of the slightly deformed organ additional traumatization results, the traumatization and formation of scar tissue becoming more marked as time goes on until the penis becomes useless, when the disease seems to become stationary.

In support of this view are the facts that:

1. A considerable number of cases give a history of trauma. In the remainder the injury may have occurred during intercourse and may not have been noticed, or it may have been forgotten.
2. The induration in the disease resembles keloid and is not unlike scar tissue in other parts of the body.
3. The lack of elastic fibrils is characteristic of any scar tissue and because of its situation in the penis gives rise to the deformity.
4. The mass of indurated tissue ceases to grow when the penis becomes useless through deformity and pain.

SUBCUTANEOUS EMPHYSEMA DURING LABOR

R. C. FAUST, M.D.

EUGENE, ORE.

The occurrence of air in cutaneous tissues is an unusual and interesting complication of labor, an accident occurring more often than has been recorded in the literature, and interesting because of the dramatic onset of the lesion and our lack of positive knowledge of its etiology and pathology.

Reckett,¹ in 1922, reporting a case, stated that in fifty years practice he had never encountered one before. Charbonnet,² in 1925, reporting one, stated that he had never heard of this complication, and this is my experience after thirty-five years. This

5. Waters, C. A. and Colston, J. A. C.: Report of Three Cases of Fibrosclerosis of Penis Treated by Roentgenization Without Improvement. *Surg., Gynec. & Obst.*, 20: 41-45, Jan., 1915.

1. Reckett, J. D. T.: Influenza, Pregnancy and Emphysema. Report of case. *Lancet* 1:843, 1922.
2. Charbonnet, P. N.: Subcutaneous Emphysema Following Labor. Report of case. *Surg. Gynec. & Obst.* 40:105-106, 1925.

patient was exhibited to six or eight of my colleagues who readily confirmed the crepitation or crackling, but were all unfamiliar with the condition.

Subcutaneous emphysema during labor was first reported by Simmons³ in 1783. Since then many more have been reported, and from time to time effort has been made to collect reports and evaluate experiences. DePaul,⁴ in 1842, first drew attention to this complication. Haultcoeur,⁵ in 1874, wrote the first thesis, collecting thirteen cases. Champneys,⁶ in 1885, attempted to explain the etiology by a series of experiments. Roche⁷ collected thirty-two cases in 1894, and Nicaise⁸ fifty-four more in 1896, Klots forty in 1899, Kosmak,⁹ reporting one in 1905 with the only photograph in the literature, was able to find seventy-seven more. Gordon,¹⁰ in reporting two of his own, found twenty-two more that Kosmak had missed, making a total of one hundred thirty cases in the literature since 1617.

CASE REPORT

Primipara, aged 19, height 64 inches, weight 128 pounds. Healthy and normal during the period of gestation. Small pelvis with large baby. Patient had a mild sore throat with redness of the tonsils and the faucial pillars. A midforceps delivery after thirteen hours of hard labor brought forth a ten pound viable male child. Nembutol and ether were used to control pain.

There was considerable bleeding during the third stage; 1 cc. of obstetric pituitrin was given after delivery of the placenta. The placenta was complete and normal in appearance, except that the fissures caused by inversion were somewhat deeper than average. It was estimated that about 800 cc. of blood was lost during the third stage. For this reason a search for cervical laceration was made, but none found. The bleeding subsided at about the time the investigation was completed.

A second degree perineal tear was repaired and the patient put to bed at 2:00 a.m. She was drowsy, the lights in the ward were dimmed, and none of us paid much attention to her facial condition. After checking the firmness of the uterus, possible hemorrhage, quality and rate of pulse (102), I left the hospital.

When the nurse on the 7 a.m. shift saw the patient, she was alarmed and called her supervisor, who in turn called me to come over right away, as the patient didn't look a bit good to her.

I found the right eye swollen completely shut, the left one about half closed, marked swelling from level of the eyes down the face, front and sides of the neck and over the chest, as far as third rib. The place of maximum distension was over the parotid glands. Pressure or palpation on any of swollen area would cause the tissue to crackle like a gas bacillus involvement. The patient had considerable mediastinal pain and discomfort, could not lie on her left side, and felt better with her chest elevated.

Pulse, temperature and respiration were respectively 128, 98 and 20.

A catheterized specimen of urine showed albumin X, sugar a trace, acetone XXX, diacetic XX, pus cells 4 and blood 15.

Improvement continued rapidly and fifty-seven hours after delivery, she was taken for roentgenogram of chest. It was negative, except for air in soft tissues of the neck.

Speculation as to air entrance atrium was undecided and no help was obtained from any of the doctors who saw the case. As there was a mild sore throat, the swelling most prominent here, I am inclined to feel that the escape of air was via the tonsillar region. A throat specialist examined the patient at a favorable time, but would offer no opinion. Mediastinal and posttracheal atria are possibilities in this case.

On the fifth day I tried to see if the complication could be repeated. I got a long rubber snake-shaped balloon and had the patient blow in this as hard as she could for five minutes. She tired out, without showing any subcutaneous air in the tissues.

The patient left the hospital on the eighth day in very good condition, although there was crepitation still in the tissues of the upper chest and neck. Her subsequent condition was normal.

Air has been observed in cellular tissues of the neck and face in conditions other than parturition, as in measles, whooping cough, pneumonia, foreign bodies in bronchi, wounds of the lung itself, tracheotomy wounds, and even from blowing the nose. In labor, too, we must distinguish between subcutaneous emphysema arising from the activities of gas forming organisms.

Most of the cases reported have been in young robust primiparae, with no evidence of other lesions or predisposing causes. The bearing-down effect seems to occupy a definite place in its etiology, even though many cases are not relatively hard. Dystocia, however, is common and most cases have had hard, long labor, rigid soft parts, poor position of the vertex, or a slowly dilating cervix commonly reported. Usually observed during the second stage of labor, it may occur in the first and frequently is not noted until delivery has been completed.

3. Simmons, S. F.: Case of Emphysema, Brought on by Severe Labour Pains. Medical Communications, Lond. 1, 176, 1784.

4. De Paul: De l'emphysème qui succède brusquement à la rupture de l'un des points des voies aériennes. Repr. from Gaz. méd. de Par. 1842, 2, s. 10.

5. Haultcoeur: De l'emphysème par rupture des voies aériennes pendant les efforts de l'accouchement. Paris. 1874.

6. Champneys, F. H.: On Expiratory Cervical Emphysema, that is Emphysema of Neck Occurring during Labor and during Violent Expiratory Efforts. Med. Chir. Tr. Lond. 48:37-68, 1885. (Abst) Brit. M. J. Lond. 2:963, 1884.

7. Roche: Contribution à l'étude de l'emphysème sous-cutané chez les femmes en couches. Paris, 1894.

8. Nicaise, E.: de l'emphysème sous-cutané produit pendant l'accouchement. Bull. Acad. de Méd., Paris, 3 s. 35: 604-610; 1896.

9. Kosmak, G. W.: Occurrence of Subcutaneous Emphysema during Pregnancy. Bull. Lying-in Hospital, N. Y. 3:76-88, 1906-7.

10. Gordon, C. A.: Respiratory Emphysema in Labor, with two New Cases and Review of Literature. Am. J. Obst. & Gynec. 14:633-646, 1927.

Its rarity alone would seem to indicate that the simple physiologic effort of parturition is not sufficient, and yet it does not follow that there must be a predisposing cause. If we say that air gains entrance to the cellular tissue through a solution of continuity of the respiratory tract, and no other hypothesis is possible, the break may occur at any point where there may be a lesion, or even in normal tissue, where other factors of stress are adequate.

There has been much speculation on the mechanism of its production. Only clinical deduction may be made, as very little experimental research has been done. It is difficult to describe the appearance, and to recognize the features of the patient when she is thus inflated.

With the deep inspiration accompanying labor pains, a large volume of air is stored in the lungs, the chest is fixed and the thoracic cavity narrowed. The force will act then entirely on the contained organs and parenchyma which normally meet no resistance and will give way. If the force continues to act, the air passes under the pleura to the root of the lung, opening an easy path through sheaths of the great vessels, infiltrating the mediastinum and following the vessels of the trachea into the neck, from where, with but little resistance, it finds its way through the cellular tissues. Pneumonia has not been observed in any case. Nicaise showed that, during loud cries, the trachea dilates almost to the point of rupture, and believes this to be the essential lesion. Notwithstanding the cartilaginous strength of the trachea, posterior hernia of its mucosa has been observed, and rupture of the trachea with subsequent emphysema has been seen in whooping cough.

Watson had no difficulty in infiltrating the submucous tissues of the face, neck and chest, and subcutaneous tissue of the mouth and throat by injection of air through a wound of the buccal mucosa. Although rupture of the air passages anywhere would permit the air to ascend, there is much anatomic evidence to show that air enters the tissues in this way in conditions other than parturition and from very slight effort.

Diagnosis offers no difficulties. Swelling, which at first may be mistaken for edema, shows the characteristic crackling or air crepitation. Redness, cyanosis or pallor are infrequently present, appearing at first in the neck or face, spreading to the chest and back, often the arms, and less frequently the abdomen and entire body. The patient presents a typical and often grotesque appearance. There

is more or less discomfort or pain in the affected area, and occasionally the patient has felt something burst or tear in the neck. Dysphagia, hoarseness and aphonia have been reported. Cough and dyspnea are common and occasionally the patient's cardiac and respiratory conditions are alarming. Acceleration of the pulse is common, but one case showed marked bradycardia. Mediastinal emphysema may be demonstrated in some cases, but did not show on our flat chest plate.*

Treatment is expectant. Rapid delivery, however, is indicated for steadily spreading emphysema, or symptoms of respiratory distress.

SUMMARY

Subcutaneous emphysema is a broad term for a rare complication of labor which needs further study and classification. Its etiology and pathology are not definitely known, but it may originate in any part of the respiratory passages. Its prognosis is generally good, and its treatment obvious. One hundred and thirty cases are now available for study, and this report will add one more to the list.

*Most of these facts obtained from paper by C. A. Gordon (vide supra).

RECURRENT HEMOLYMPHANGIOMA CAVERNOSUM CUTIS*

CHARLES P. LARSON, M.D.

and

CHARLES M. LANE, B.S.

FORT STEILACOOM, WASH.

McCarthy¹ has described a very rare type of lymphangioma (five published cases) which he classifies as lymphangioma cavernosum cutis. These tumors are composed of large, dilated lymph spaces in the subcutis and cutis, with atrophy of the epidermis. The tumor reported here falls into this classification but in addition presents cavernous angiomata in both the epidermis and cutis.

CASE REPORT

The patient was a female, six years of age, who three years previously had developed a small, slowly enlarging, nonpainful tumor over the lower portion of the left scapula. The growth was completely excised and no pathologic examination of the tissue was made. The wound healed rapidly, but after several months the tumor recurred and continued to grow in size until the time of the second operation.

The present physical examination was essentially negative except for a tumor mass about 1 cm. in diameter lying adjacent to the old scar. The nodule lay in the cutis,

*From the Department of Pathology, Western State Hospital, Fort Steilacoom, and St. Peter's Hospital, Olympia, Wash.

1. McCarthy, Lee: Histopathology of Skin Diseases. C. V. Mosby & Co., 1931.

was freely movable in the skin and had a dark blue color. In the epidermis over the surface of the tumor were several bright red, pin-head sized elevations. The nodule was not tender, there was no evidence of inflammation and no similar lesions were present on other parts of the body. Personal and family history disclosed nothing of significance referable to this tumor. The growth was widely and deeply excised on March 15, 1938, and there has been no evidence of recurrence.

Gross: The specimen consists of a piece of skin 2.5 cm. square with the underlying subcutaneous tissue, fascia and superficial fibres of the infraspinatus muscle. Lying in the cutis is a firm, bluish-colored nodule 1 cm. in diameter. In the overlying epidermis are several tiny red elevations. Cut surface of the main tumor shows two distinct types of tissue; small, multiple cysts, containing a clear fluid with thin greenish pigmented walls, and larger interlacing channels filled with blood.

Microscopic: The tiny, red, epidermal nodules described in the gross are cavernous collections of blood sinuses lying within the surface epithelium. There is a generalized atrophy of the epidermis, but the accessory glands of the skin remain. The large tumor lies deep in the cutis and is composed of a mixture of cavernous angiomatous sinuses and dilated lymph vessels (fig. 1). The blood sinuses are lined with adult-appearing endothelium and are separated from each other by thin strands of connective tissue. Capillary budding and solid cords of endothelial cells having no definite lumen are present. In some places the blood seems to lie free in the tissues, with no limiting endothelial lining. Surrounding these blood sinuses are both large and small endothelial-lined, multiloculated, cystic spaces containing coagulated lymph and a few lymphocytic cells (fig. 2).

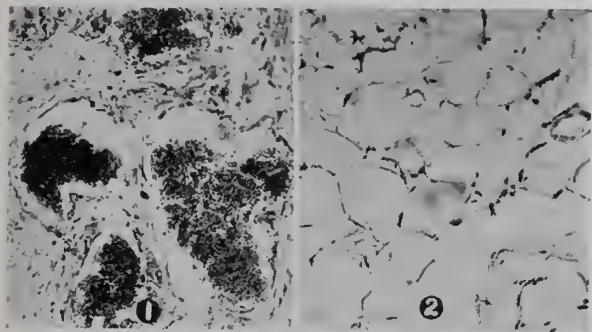


Fig. 1. Cavernous hemangioma and dilated lymph spaces.

Fig. 2. Multiloculated cystic lymphangioma cutis.

There is a moderate degree of connective tissue proliferation within which are deposits of melanin. There is also some proliferation of smooth muscle fibres and patchy areas of lymphocytic infiltration.

SUMMARY

A recurrent, histologically benign tumor containing four different types of proliferating tissue (angioma, lymphangioma, smooth muscle and connective tissue) has been described. In addition there were deposits of melanin and patches of lymphocytic infiltration. Considering the age of the patient, the gross and microscopic features and the clinical progress of the growth, it may be reasonably assumed that the tumor is congenital in origin. Angioma serpiginosum can be ruled out by the microscopic features of the lesion.

SARCOMA OF BREAST*

RUSSELL L. JOHNSRUD, M.D.

PORTLAND, ORE.

Sarcoma of the breast is an infrequent lesion. The incidence varies in recent reports^{1,2,3,4,5} from 0.5 to 3 per cent of all breast malignancies in the female. In the male the incidence is about 6 to 16 per cent of all malignancies in the breast.^{6,7,8} The pathologic classification has been worked out fairly carefully. Certain factors in the etiology are apparent. The surgical treatment has been quite varied in extent and quite varied in results.

For this study 139 cases from the literature of the past ten years have been selected because of sufficient data for an analysis, although the details of some of the follow-up reports are not as complete as desirable.⁹⁻²⁵ Three additional cases were selected from our own practice and from the Pathology Department of University of Oregon Medical School.

ETIOLOGY

Considerable amount of study has been made to verify the fact that cases of sarcoma have devel-

*Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Gearhart, Ore., Sept. 6-9, 1939.

1. Boldrey, E. B.: Primary Sarcoma of Breast, *Canad. M. A. J.*, 35:16-21, July, 1936.
2. D'Aunoy, R. and Wright, R. W.: Sarcoma of Breast, *Ann. Surg.*, 92:1059-1066, Dec., 1930.
3. Fox, S. L.: Sarcoma of Breast, *Ann. Surg.*, 100:401-421, Sept., 1934.
4. Sailer, S.: Sarcoma of Breast, *Am. J. of Cancer*, 31:183-206, Oct., 1937.
5. Schreiner, B. C. and Thibaudeau, A. A.: Sarcoma of Breast, *Ann. Surg.*, 95:433-439, March, 1932.
6. Neal, M. P.: Malignant Tumors of Male Breast, *South. M. J.*, 25:841-844, Aug., 1932.
7. Rose, J.: *Deutsche Ztschr. f. Chir.*, 246:151-187, 1936.
8. Schreiner, B. F.: Tumors of Male Breast, *Radiology*, 18:90-92, Jan., 1932.
9. Berner, O.: Ein fibro-epithelialer Tumor, ein Papillom, aus dem sich ein Sarkom entwickelte, *Ztschr. f. Krebsforsch.*, 46:232-240, 1937.
10. Ch'en, S. M.: Sarcoma of Breast, *China M. J.*, 43:1209-1214, 1929.
11. Distefano, G.: Considerazioni sull' istologia e istogenesi del sarcoma mammario, *Tumori*, 11:482-492, 1937.
12. Grauer, R. C. and Robinson, G. H.: Pathogenesis of Fibroadenosarcoma of Breast, *Arch. Surg.*, 31:677-687, Nov., 1935.
13. Hamann, C. A.: Sarcoma of Breast, *West Virginia M. J.*, 25:257-259, May, 1929.
14. Hamant, A. and Chalmot: Sarcome du Sein, *Bull. Soc. d'obst. et de gynéc.*, 22:800-801, 1933.
15. Husted, E.: Et tilfaelde recidiverende, histologisk benign tumor mammae, *Hospitalstidende*, 77:226, 1934.
16. Jaki, J.: Zur Genese der Brustdrusensarkome, *Med. Welt.*, 10:1040-1041, 1936.
17. Lifvendahl, R. A.: Liposarcoma of Mammary Gland, *Surg., Genec. & Obst.*, 50:81-84, Jan., 1930.
18. Nowicki, W.: Carcinom und Sarkom als Kollisionsgeschwulst, *Virchows Arch. f. Path. Anat.*, 289:564-574, 1933.
19. Offergeld, H.: Doppelseitiges primäres Mammasarkom, *Arch. f. Klin. Chir.*, 153:395-406, 1928.
20. Salotti, A.: Metastasi ossea di raro tumore della mammella con strano comportamento alla röntgentherapie, *Ann. di Radiol. e fis. Med.*, 9:447-454, 1935.
21. Schriver, L. H.: Case of Sarcoma of Breast, *J. Med.*, 17:350, 1936.
22. Sophian, L. H.: Adenofibrosarcoma of the Breast, *Arch. Path.*, 9:1007-1014, May, 1930.
23. Speziale, V.: Contributo alla conoscenza del sarcoma della mammella muliebre, *Morgani*, 74:827-835, 1932.
24. Wakely, C. P. G.: Case of Carcinoma of Right Breast Followed by Sarcoma of Left Breast after Interval of Eighteen Years, *Brit. J. Surg.*, 21:156-158, July, 1933.
25. Wellbrock, W. L. A.: Sarcoma of Breast with Foreign Body and Tumor Giant Cells, *Ann. Surg.*, 90:154-156, July, 1929.

oped from preexisting fibroadenomas and intracanalicular fibromyxadenomas.²⁶ This pathogenesis has been seen in some experimental studies.²⁷ Sarcomatous degeneration in some benign bone lesions has been recently reported.²⁸ Ewing states there is no doubt that a small proportion of benign mesoblastic tumors eventually display highly cellular and malignant characteristics. There are a few cases in which a very definite and usually severe trauma occurred to the breast with the immediate development of a tumor which proved to be sarcoma. An etiologic relationship is certainly suggested.

The age incidence varied from 13 to 89 years. The average age was 49.2 years. Sarcoma of the breast is much more common in the female, but there is a relatively higher percentage of incidence in male breast tumors.

PATHOLOGY

At least fourteen different types of sarcoma have been found in the human breast; however, the majority are variations of the fibrosarcoma group. Fox has made a classification which considers anatomy and pathogenesis and is very satisfactory from the standpoint of differentiation and prognosis. In table 1 is shown the classification extended from that of Fox to include all varieties in this report with the number and percentage of each type.

Group I—Fibrosarcoma		Cases	Per cent
A. Fibrosarcoma, fascial type			
1. Spindle cell types.....	45	31.7	
2. Undifferentiated, round and polymorphous cell types.....	5	3.5	
B. Fibrosarcoma, secondary to fibroadenoma. (Adenosarcoma)		4	2.8
C. Fibrosarcoma, secondary to intracanalicular fibroadenoma (Cystosarcoma)		47	33.0
Group II—Neurogenic sarcoma			
A. Neurogenic sarcoma (nerve origin).....		6	4.2
B. Tumors of nerve sheath origin			
1. Perineural fibrosarcoma	1	0.7	
2. Melanotic sarcoma	1	0.7	
Group III—Lymphoid and myeloid sarcoma			
A. Lymphoid sarcoma		6	4.2
B. Myeloid sarcoma		3	2.1
Group IV—Miscellaneous group			
A. Giant cell tumors.....		1	0.7
B. Osteogenic sarcoma		2	1.4
C. Liposarcoma		2	1.4
D. Rhabdomyosarcoma		1	0.4
E. Chondrosarcoma		3	2.1
Group V—Sarcoma, undefined and unclassified		11	7.7
Group VI—Carcinosarcoma		4	2.8
Total		142	

Table 1. Classification of sarcoma of the breast.

Group I, *Fibrosarcomas*. These are subdivided into (A) the fascial type which apparently arise on

the basis of proliferation from the interlobar and interlobular connective tissue. These tumors are usually solid but may become cystic. Most often they are encapsulated. Histologically, they are composed of spindle cells, while some of the more malignant varieties are composed of undifferentiated, polymorphous and round cells.²⁹ Some of the more anaplastic forms are very difficult to differentiate from carcinoma.

(B) *Adenosarcomas* are derived from preexisting fibroadenomas by proliferation of both the perilobular connective tissue and epithelial structures. The ducts and glands are dilated and lined with one or more layers of cells which are large and active, but present an orderly appearance. The connective tissue changes are similar to those of the fascial type. Tumor giant cells and round cell infiltration may be seen.

(C) *Serocystic sarcomas* (Brodie), also called *cystosarcoma phyllodes* (Muller), develop secondary to intracanalicular fibromyxomas by proliferation of the intralobular connective tissue projecting into and compressing the ducts. The spindle cells are large and swollen. Myxomatous changes are present. Mitoses are few. Recurrences following removal resemble other types of fibrosarcoma, in which the epithelial elements may be absent. These tumors grow to large size and are usually encapsulated, fluctuant and cystic, and nodular.

There has been considerable discussion in the literature as to whether this type of tumor is benign or malignant. There will be tumors of this type which are benign histologically, and malignant clinically (pulmonary metastases) as in a case of our own. Undoubtedly there is a wide range in the microscopic picture and in the clinical behavior.

Group II is composed of (A) *Neurogenic sarcomas* which arise from the normal nerves present in the pectoral region. Clinically, they are located in the outer, upper quadrant near the axilla. They are smaller than the fibrosarcomas and solid with more tendency to invasiveness. (B) Subvarieties of this group arise from the nerve sheaths, (1) perineural sarcomas and (2) melanotic sarcomas.

Group III includes (A) *lymphoid* and (B) *myeloid sarcomas*. The former develop from the lymphatic plexuses and aggregates of lymphocytes within the breast or adjacent lymph glands. The myeloid sarcomas are related to similar tumors of bone marrow origin. These two types most commonly show lymph node metastases.

26. Geschickter, C. F.: Mammary Tumors, Surgery, 3: 916-949, June, 1938.

27. Emge, L. A.: Sarcomatous Degeneration of Transplantable Mammary Adeno-Fibroma of White Rat, Arch. Path., 26:429-440, July, 1938.

28. Kilgore, A. R. and Abbott, L. C.: Sarcoma Following Benign Bone Lesions, Surgery, 3:951, June, 1938.

29. Ewing, J.: Neoplastic Diseases, Philadelphia, 1938, W. B. Saunders Company.

Group IV classifies the miscellaneous nonspecific types of sarcoma which are found in the breast. Some of these tumors are quite possibly modified forms of fibrosarcomas.

Group V was added to include eleven cases which were undefined and unclassified.

Group VI, the so-called *carcino-sarcomas*, are tumors apparently containing both types of neoplastic tissue according to the interpretation of those who reported these cases.

CLINICAL MANIFESTATIONS

Frequently the patient gives a history of a small circumscribed tumor which had remained unchanged in size or was slow growing over a period of months or years, then suddenly began to grow rapidly. In one such instance there was a tumor of the right breast present for forty years with rapid growth only in the last year. In many other instances the tumor is rapidly growing from the first. The size varies, but as a rule sarcomas are comparatively larger than other breast tumors. In one instance the tumor weighed sixteen pounds. Large tumors tend to be discrete or encapsulated and cystic, and occasionally multilobulated. Pain as a symptom is infrequent and usually occurs late when present.

In spite of the fact that the whole breast may be involved, skin fixation does not occur. In some instances the overlying skin becomes ulcerated due to pressure, but microscopic examination shows no invasion. Retraction of the nipple likewise does not occur. In some cases there may be invasion of the pectoral fascia or muscle. Axillary lymph nodes were stated to be definitely invaded by sarcoma in only twelve cases (8.5 per cent). In seven other cases the glands were said to be enlarged on physical examination, but the pathology was not given.

Metastasis occurs most frequently by the blood stream with most frequent sites of extension being the lungs, pleura and mediastinum. Next in frequency is the liver and other abdominal viscera. The brain was mentioned twice and the spinal cord once.

DIAGNOSIS

Clinical diagnosis of sarcoma of the breast should be considered when one encounters the following picture:

1. A tumor which is rapidly growing. This change quite frequently will take place in a tumor which has been present for a period of months or years without any previous appreciable growth.

2. A large discrete or encapsulated tumor which is often cystic and may occupy the entire breast.

3. Absence of skin fixation as is seen in carcinoma. Skin ulceration, a pressure necrosis phenomenon, may be present.

4. Absence of axillary lymph node enlargement.

In atypical cases variations may be seen. The tumor may be firm and hard and occasionally with axillary lymph node enlargement.

Local recurrences or distal metastases developing after the removal of an apparently benign fibroadenoma or an intracanalicular fibromyxadenoma should cause one to consider the possibility of the lesion being a sarcoma.

As is frequently the case in breast tumors, often one will not be able to make the diagnosis until a biopsy has been done or until further study of the tumor has been made in the pathologic laboratory. These procedures should always be used to confirm the clinical diagnosis at the time of operation.

TREATMENT

In this group a total of 166 operations were performed. Several cases were reoperated upon for local recurrences, while in others, after excision of a supposedly benign tumor, and pathologic examination revealed a malignant lesion, more extensive surgery was done at a later date.

Type of operation	No. of cases	No. of local recurrences
Local excision of tumor.....	39	15
Simple mastectomy	36	8
Excision of breast and pectoral fascia or muscles	3	1
Radical mastectomy	60	1
Type of operation not stated.....	28	none stated

Table 2. Type of operation and local recurrences.

Table 2 summarizes the operations with special reference to local recurrences. In thirty-nine instances of only excision of the tumor there were fifteen local recurrences. In the thirty-six cases, in which simple mastectomy was done, there were eight recurrences at operative site. Mastectomy with removal of pectoral fascia or muscles and fascia was done three times with one local recurrence. Radical mastectomy (breast, fascia and muscles, and axillary lymphatic bearing structures) was the procedure of choice in sixty instances with only one local recurrence. The details of the extent of the operation were not given in twenty-eight cases.

Operation	Total No.	Cases	Per cent
Excision of tumor.....	39	0	0
Simple mastectomy	36	2	5.5
Excision of breast, fascia and muscles.....	3	1	33.3
Radical mastectomy	60	14	23.3
Operation not stated.....	28	4	14.3

Table 3. Type of operation and five year cures.

Table 3 shows the number of five-year cures for each type of operation. Simple mastectomy was used two times. Mastectomy and removal of pectoral fascia was reported once. The radical operation was performed in fourteen instances. The type of operation was not stated in four of the cases.

Some writers believe that because of the infrequency of axillary metastases, only the breast with pectoral fascia and muscles should be removed when the glands are not involved. Experience with this procedure is too limited to give an opinion, from a statistical standpoint, in this discussion. It is logical to assume that its use is justified in the properly selected case. It has been wisely suggested that early in the operation the veins from the breast region should be ligated in the axilla to prevent blood stream extension of dislodged tumor emboli from surgical trauma. If this is done, axillary dissection can be completed with the same exposure and very little additional effort. In this analysis statistics favor the complete operation. It was the procedure most frequently used and gave much more favorable results than local excision and simple mastectomy.

All local recurrences should be removed surgically, and, if in a case which has had a previous limited operation, the radical procedure should be completed. Ewing tells of a case treated by Gross in which twenty-one excisions were made during a four-year period, finally eradicating the disease. In one report the tumor was removed with subsequent recurrence four times, only local wide excision being used each time. Axillary, supraclavicular and distal metastases were present after the fourth recurrence.

As a prophylactic measure, the removal and pathologic examination should be done on all breast tumors, even those clinically benign. This is especially emphasized, since over one-third of the sarcomas in this series apparently were secondary to benign tumors. Furthermore, everyone who has had experience with breast tumors has seen clinically benign lesions pronounced malignant by the pathologist.

<i>Type of treatment</i>	<i>No. of cases</i>	<i>Results</i>
Preoperative roentgen ray.....	2	1 seven-year cure
Postoperative roentgen ray.....	17	5 five-year cures
Postoperative radium	1	living and well at 3 years
Postoperative radon seeds.....	1	recurrence
Roentgen ray for recurrences and metastases	6	1 case surviving nearly 5 years
Inoperable cases	4	no cases surviving 2 years

Table 4. Summary of cases with radiation therapy.

Results of radiation therapy in thirty-one available cases (sixteen cases in this study and fifteen quoted from Wintz), are shown in table 4. Although the series is rather small for definite conclusions, the results are not encouraging for this type of treatment as an adjunct to surgery. Possibly after more experience with present day roentgen treatment, this opinion will be modified. The case in which treatment of metastases prolonged the life of the patient nearly five years (last report) was a lymphoblastoma.

PROGNOSIS

Because of the number of cases with inadequate follow-up studies, it is impossible to give accurate statistics. However, by using the eighty-four cases in which sufficient follow-up data is available, one may derive useful information. There were twenty-one known five-year cures (25 per cent), with all types of treatment; there were an additional twenty-two patients who were alive and well at the last report, up to that time, so that the actual percentage would be higher, if all of these could be followed for the full five years.

Of the sixty instances of radical mastectomy, thirty-five have been followed. Of these, twenty were well at the last report, fourteen (40 per cent) of whom were known to survive at least five years. I believe it is safe to conclude that with radical breast amputation, 40 to 50 per cent of all cases will survive without recurrences or metastases. All of the cases which were known to survive five years were of the fibrosarcoma group (group I) except one which was stated to be a giant cell sarcoma. It is generally believed that fibrosarcomas are less malignant than other types of sarcoma found in the breast.

CONCLUSIONS

1. Sarcoma of the breast is frequently secondary to a benign tumor.
2. A typical lesion is large, rapidly growing, encapsulated or discrete, and often cystic. Skin fixation does not occur.
3. There is a high incidence of local recurrences with local excision or simple mastectomy.
4. Radical breast amputation is the treatment of choice.
5. Forty to fifty per cent five-year cures can be expected with this method.
6. Radiation therapy is of doubtful value at present.

STATE SECTIONS

OREGON

SIXTY-SIXTH ANNUAL MEETING, EUGENE, SEPTEMBER 3-5

COUNCIL MEETINGS

The regular monthly meeting of the Council was held in Portland December 3, at which time the following actions were taken:

A budget for 1940 was adopted, the estimate of which used up all the estimated income.

The Public Relations Committee was authorized to publish as paid advertising in the leading newspapers of the state the policies and principles of Oregon State Medical Society concerning prepaid medical care.

Consent was given to all component medical societies to proceed with disciplinary action on members servicing unapproved hospital associations after January 1, 1940.

Means of developing a program of postgraduate medical education were discussed.

On December 16 a special meeting of the Council was held with the Oregon Association of Hospitals, at which time there was considerable discussion of hospital insurance. A committee of three was appointed to meet with six members of the Oregon Association of Hospitals, three of whom will be members of the Portland Council of Hospitals. This committee was instructed to study the problem of hospital insurance and to report to the Council as to whether such insurance should be offered separate from medical service contracts and, if so, to recommend to whom it should be offered and in what form.

Executive Committee Meetings

The Executive Committee of the Council met on December 27 to hear the plan of C. H. Weston for prepaid medical service to individuals.

POLICIES AND ACTIVITIES OF OREGON STATE MEDICAL SOCIETY*

The Principles of Ethics of this Society were conceived in a spirit of public welfare and service. The practical application of the Golden Rule has been fostered in the relationships existing between doctor and patient and among the physicians. It is unprofessional and contrary to the public welfare for a physician to dispose of his services under conditions which make it impossible to render proper service to his patient or which interfere with reasonable competition among physicians in a community.

In considering special plans to meet the needs of particular groups of our people, the Society observes these and other fundamental and ethical principles. For example, no third person is permitted to come between the patient and

his physician and dictate less extensive diagnosis and treatment than the physician believes is in the best interest of the patient. Moreover, the patient's right to choose his physician and hospital is respected.

The Society has sponsored or approved special plans by which the services of its members, numbering more than 800 of the physicians of the state, have been made more readily available to people without means or in low-income groups. More than 250,000 people are receiving or are eligible to receive medical care under a number of different plans which serve several large classes of beneficiaries.

Under the Society's program to provide medical care to low-income groups, approved medical service bureaus are operating in 13 counties. These approved bureaus are non-profit organizations established and operated by the physicians in each local community to provide protection to wage-earners in illness and injury through the payment of small monthly premiums. All subscribers' premiums, except modest, necessary administration costs are used to provide medical and hospital services.

In contemplation of the possible extension of the services of its members to these groups, the Society has made extensive studies of many and various prepaid plans of medical care. The Society will not approve any of these plans until it has been clearly shown that they are in the best interests of the public and will maintain high standards of medical practice.

The Society is prepared to approve medical indemnity insurance plans which assist the subscriber to pay for his medical and hospital services, wherein payments are made directly to the subscriber.

Regardless of what special plans are adopted to provide prepaid medical care, or whether the plans are conducted by private, public or governmental agencies, it must be realized that no such plan can provide that personal and individualized service which most people expect under private medical practice.

APPROVED LOCAL SERVICE BUREAUS

The following organizations have been approved by the Council of Oregon State Medical Society and are affiliated with the Bureau of Medical Economics:

- Association of Clackamas County Physicians.
- Coos Bay Hospital Association.
- Southern Oregon Medical Service Association.
- Eugene Hospital and Clinic.
- Pacific Hospital Association.
- Multnomah Medical Service Bureau.
- Physicians and Surgeons Hospital Association.
- Tillamook Hospital Association.
- La Grande Hospital Association.

*Published as a paid advertisement in the Oregonian and The Oregon Journal, December 17, 1939, by the Committee on Public Relations of Oregon State Medical Society. This same ad will be published in leading papers throughout the State.

LEGAL MEDICINE

OREGON COURT DECIDES THAT BOARD OF MEDICAL EXAMINERS' SUIT TO DECLARE RIGHTS OF OSTEOPATHS STATES A GOOD CAUSE OF SUIT

Due to the fact that Oregon legislation affecting various branches of the healing arts has been adopted piecemeal, there has long been a dispute as to the limits of practice of osteopaths. This dispute has led to confusion and uncertainty.

Some time ago the Oregon Attorney General rendered an opinion to the effect that osteopaths have an unlimited license, and may use any modalities or treatment they desire. The Board of Medical Examiners has felt itself bound by that opinion, in the absence of any controlling court decision.

The problem has become acute recently, with osteopaths setting up clinics, holding themselves out to do all sorts of surgery, using all sorts of drug therapy regardless of training, demanding admission into hospitals regardless of the hospital regulations attempting to protect the public, and other factors unnecessary to mention here. To meet the situation, the Board of Medical Examiners authorized a suit to seek a declaratory judgment of the rights of osteopaths.

The complaint in the suit was filed in Multnomah County. The Board of Medical Examiners is plaintiff, and a number of osteopathic physicians are defendants. The complaint sets forth that the defendants have graduated from osteopathic schools, have the degree of "D. O.," and are licensed in Oregon under the osteopathic laws, and not those dealing with medicine and surgery. The complaint prays for a decree declaring that osteopathic physicians in Oregon do not have an "unlimited license," do not have the right to use drug therapy or do operative surgery, except in emergencies.

The defendant osteopaths filed a demurrer. This pleading has the effect of saying that the complaint does not state a cause of suit under the statutes dealing with osteopathy in Oregon. It raises the question of the legal sufficiency of the complaint.

Judge James W. Crawford of the Circuit Court heard an argument on the defendant's demurrer on December 9. After hearing the argument the court held that the complaint stated a good cause of suit. The defendants may appeal from the decision on the demurrer, or may put in an answer to the complaint.

The case should raise substantially the same problems passed upon in 1938 by the Kansas Supreme Court. The Kansas court decided that under the Kansas statutes osteopaths have no right to use drug therapy or do operative surgery. It is the theory of the Board of Medical Examiners' case that the Oregon statutes and the Kansas statutes have the same legal effect, and that the identical questions raised in the Kansas case are raised in the Oregon case. The osteopaths, of course, contend that the statutes of the two states are so different as to require another decision. Legal cases on "all fours" are rarely found, any more than two patients with exactly the same causes of discomfort or symptoms. But it is believed that the Oregon statutes are as close to being on "all fours" with the Kansas statutes as will be found in the history of the healing arts statutes of this country.

COMMITTEE APPOINTMENTS

President Hunt announced the appointment of standing and special committees as follows:

STANDING COMMITTEES

Committee on Annual Session

M. L. Bridgeman, Portland, Chairman.
L. S. Lucas, Portland.
R. M. Overstreet, Eugene.

Committee on Public Policy

R. B. Adams, Portland, Chairman.
F. K. Power, Salem.
C. J. Bartlett, Baker.

Committee on State Industrial Affairs

T. Coberth, The Dalles, Chairman.
W. K. Livingston, Portland, Vice-Chairman.
J. C. Hayes, Medford.
G. I. Hurley, Eugene.
W. T. Johnson, Corvallis.
H. L. Blosser, Portland.

Subcommittee on School Health

(Incomplete.)

Committee on Medical Education and Hospitals

C. H. Manlove, Portland, Chairman.
G. A. Massey, Klamath Falls.
M. W. McKeown, Marshfield.

Committee on Public Relations

C. E. Sears, Portland, Chairman.
Blair Holcomb, Portland.
(Incomplete.)

Committee on Postgraduate Education

K. H. Martzloff, Portland, Chairman.
M. L. Bridgeman, Portland.
H. J. Clements, Salem.

Committee on Malpractice

O. F. Akin, Portland, Chairman.
W. F. Hollenbeck, Portland.
S. E. Rees, Portland.

Committee on Charitable Medical Care

S. G. Henricke, Portland, Chairman.
K. H. Martzloff, Portland, Vice-Chairman.
C. P. Wilson, Portland.
R. G. MacDonald, St. Helens.
F. R. Mount, Portland.
R. C. Romig, Eugene.

Committee on Maternal Welfare

R. E. Watkins, Portland, Chairman.
G. C. Schaffler, Portland.
L. S. Kent, Eugene.

Committee on Child Health

L. H. Smith, Portland, Chairman.
E. H. Kelley, Corvallis.
C. O. Wainscott, Pendleton.

Committee on Cancer Study

C. E. Sears, Portland, Chairman.
T. D. Robertson, Portland.
J. P. Cleland, Oregon City.

Committee on Venereal Diseases

M. L. Margason, Portland, Chairman.
H. C. Stearns, Portland.
L. M. Bain, Albany.

Committee on Tuberculosis

Marr Basaillon, Portland.
C. P. Wilson, Portland.
C. E. Mason, Beaverton.

Advisory Committee to the Woman's Auxiliary

R. A. Payne, Portland, Chairman.
W. J. Weese, Ontario.
Thompson Coberth, The Dalles.

Committee on Conservation of Hearing

W. Johnston, Portland, Chairman.
R. W. Stearns, Klamath Falls.
E. A. Woods, Ashland.

Committee on Conservation of Vision

E. M. Taylor, Portland, Chairman.
DeWalt Payne, The Dalles.
G. H. Henton, Portland.

Committee on Military Affairs

W. H. Bueermann, Portland, Chairman.
E. W. Howard, Corvallis.
V. W. Miller, Salem.

Committee on Veterans' Affairs

A. C. Van Cleve, Portland, Chairman.
E. B. Stewart, Roseburg.
H. R. Kauffman, Toledo.

Committee on Revision of Constitution and By-Laws

J. R. Montague, Portland, Chairman.
E. B. McLean, Oregon City.
A. M. Boyden, Astoria.

SPECIAL COMMITTEES

Advisory Committee on Laboratory Standards to the State Board of Health

C. H. Manlove, Portland, Chairman.
F. R. Menne, Portland.
R. L. Benson, Portland.
E. M. Howe, Portland.

Committee on Honorary Membership

D. C. Burkes, Portland, Chairman.
W. G. Homan, Burns.
P. J. Bartle, Eugene.
J. C. Booth, Lebanon.
A. W. Moore, Portland.

Necrology

A. C. Kinney, Sea View, Washington, Chairman.
A. C. Smith, Portland.
G. E. Houck, Roseburg.
David Robinson, Tillamook.

MEDICAL NOTES

BASIC SCIENCE EXAMINATION. Examination in the basic sciences will be held at the Main Library, S. W. 11th Ave., between Yamhill and Taylor Streets, Portland, February 24, 1940, starting at 8:30 a. m. Application blanks and instructions may be obtained through the office of Charles D. Byrne, Secretary of State Board of Higher Education, Eugene, Ore. Application blanks for examination must be filed not later than noon, February 7.

MEDICAL SERVICE BUREAUS. Two medical service bureaus have been formed in the state during the past month, the Coquille Medical Service Bureau and the Klamath Medical Service Bureau. The Klamath bureau has already become affiliated with the Oregon State Bureau of Medical Economics and affiliation of the Coquille bureau is expected in the near future.

LANE COUNTY PUBLIC HEALTH DEPARTMENT has announced new plans for more effective health service to the schools of the county. The new plan has been made possible by addition of new members to the staff and cooperation of the Eugene city schools and of the Physical Education Department of the University of Oregon. E. L. Gardner is County Health Supervisor and N. Paul Anderson has been named Assistant Supervisor.

HOT LAKE SANITARIUM in Union County may be taken over by the Veterans' Administration. While nothing final has been settled, the Administration is looking with favor on establishing a sanitarium in Northwestern Oregon.

PORTLAND HOSPITAL STARTED. Building permit for a new St. Vincent's East Side Hospital was issued in December.

Excavation and construction of foundations has been under way for some time.

CITY ASKED TO PAY HOSPITAL COSTS. Astoria police have been asked to pay for cases which they bring to the hospital on an emergency basis. It is felt that the city should pay at least one day hospitalization for these cases.

HEALTH OFFICER INJURED. E. L. Gardner, health officer for Lane County, suffered brain concussion in an accident on the Pacific Highway December 15.

PHYSICIAN HONORED BY LIONS. William Horsfall of Marshfield was named first citizen of that city for 1939 and given a plaque by the local Lions Club.

JOINS STAFF AT STATE HOSPITAL. D. S. Bolstad, formerly of Hawthorne, Wisconsin, has moved to The Dalles, where he has assumed a position at the Eastern Oregon State Tuberculosis Hospital.

RETIREMENT. E. N. Crockett, associated with the Portland health department for many years, has been retired on pension. He is 76 years of age.

REHABILITATION FOR TUBERCULOSIS PATIENTS is the program of the year for the Oregon State Tuberculosis Association. Vocational training has been instituted in the Salem and The Dalles Sanatoriums under direction of C. F. Feike.

W. W. BAUM of Salem has succeeded R. Bruce Miller as commanding officer of the Lebanon Unit of the Oregon National Guard.

D. S. BOLSTAD has assumed duties on the staff of Eastern Oregon State Tuberculosis Hospital, succeeding Cedric Northrup who left several months ago to assume the superintendency of a North Dakota institution.

FLORA BISWELL has resumed her practice in Baker, having recently returned from a postgraduate course in Chicago.

LOCATIONS. Robert M. Coffey, who has practiced at Juneau, Alaska, for the past four years, has located in Salem for practice. L. L. Hewitt has moved from Estacada to Portland. Edward S. Morgan, graduate of University of Oregon Medical School in 1935, has become associated with J. P. Brennan of Pendleton. John Alden has taken the practice of E. R. Norris at Canyon City.

WEDDING. Clifford W. Kuhn and Miss Florence Palm were married in Portland November 26.

OBITUARIES

DR. ROBERT PERCY SMITH of Portland, Ore., died November 29, aged 71. He was born in Dunkirk, Maryland, in 1868. He received his medical education at the College of Physicians and Surgeons, Baltimore, graduating in 1891. He practiced in Baltimore until 1909. During the World War he enlisted in the Army Medical Corps, and attained the rank of major serving the 91st division as psychiatrist. In 1922 he entered the U. S. Public Health Service and was later transferred to the Veterans' Bureau. He was retired in 1932, since when he has practiced in Portland.

DR. ROY S. STEARNS of Portland, Ore., died of a heart attack December 12, aged 62. He was born in Bristol, Vermont, April 19, 1877, and received his premedical education at Middleburg College, Massachusetts. He received his medical degree from Harvard University in 1905 and came to Portland in 1906, where he practiced constantly since.

SOCIETY MEETINGS

CENTRAL WILLAMETTE MEDICAL SOCIETY

Pres., Henry Garnjobst; Secty., Eugene H. Kelley

Annual meeting of the Central Willamette Medical Society was held at Osborne Hotel, Eugene, December 7. Election of officers resulted as follows: President-elect, C. D. Donahue, Eugene; Vice-President; G. E. Fortmiller, Albany; Secretary-Treasurer, E. H. Kelley, Corvallis. Henry Garnjobst, of Corvallis, was inducted into office as President for the coming year.

Scientific session was addressed by two outstanding men from San Francisco. L. D. Prince, surgeon for the Santa Fe Railroad, read a paper on "Fractures of the Patella." L. L. Stanley, chief surgeon of San Quentin penitentiary, discussed "Medical Problems of the State Penitentiary."

There was a large attendance from the district covered by the Central Willamette Society and several guests were present from Salem.

CLATSOP COUNTY MEDICAL SOCIETY

Pres., Frank E. Boyden; Secty., D. C. Prentiss

Annual meeting of the Clatsop County Medical Society held early in December featured election of officers. F. E. Boyden was named president, R. W. Kullberg vice-president, and D. C. Prentiss, secretary-treasurer, all of Astoria.

COLUMBIA COUNTY MEDICAL SOCIETY

Pres., Paul Starr; Secty., John C. Barton

Annual meeting of Columbia County Medical Society was held the latter part of November. Election of officers resulted in selection of P. H. Starr, Clatskanie, President; and J. C. Barton of St. Helens, Secretary-Treasurer.

COOS-CURRY COUNTY MEDICAL SOCIETY

Pres., John M. Simpkin; Secty., B. E. Barkwill

Annual meeting of Coos-Curry County Medical Society was held at the Chandler Hotel, Marshfield, December 6. Meeting was addressed by Joyce Dahl, of Portland, on "Treatment of Syphilis."

Election of officers resulted in selection of J. M. Simpkin of Marshfield, President; G. E. Stark, Coquille, Vice-President; B. E. Barkwill, Marshfield, Secretary-Treasurer; and D. M. Long, retiring president, as delegate to the State meeting.

JACKSON COUNTY MEDICAL SOCIETY

Pres., W. G. Bishop; Secty., C. W. Lemery

Annual meeting and election of officers was held by the Jackson County Medical Society at the Medford Hotel, Medford, December 13.

Elected were W. G. Bishop of Medford, president; Harvey Woods of Ashland, vice-president; C. W. Lemery of Medford, secretary-treasurer; C. I. Drummond of Medford, member of Board of Censors; A. E. Dodson, delegate to the annual state meeting.

Scientific session was devoted to a paper on "Influenza" by A. F. W. Kresse of Medford.

LANE COUNTY MEDICAL SOCIETY

Pres., E. D. Furrer; Secty., R. C. Romig

Lane County Medical Society met December 15 at Hotel Osburn, Eugene, for its annual meeting. Reports were given, covering the year's work by the Council and committees, and a new constitution and by-laws were adopted. Officers for the new year were elected as follows: President-elect, R. C. Romig, Eugene; vice-president, John Kuykendall, Eugene; secretary-treasurer, R. M. Overstreet, Eugene; councilors for three years, A. F. Barnett, Eugene, and D. C. Stanard, Eugene. Carl Phetteplace, who has been president-elect during the past year was installed in office as president.

MID-COLUMBIA MEDICAL SOCIETY

Pres., C. E. Hardwick; Secty., R. P. Atkinson

Annual meeting of the Mid-Columbia Medical Society was held at the Columbia Gorge Hotel, Hood River, December 12. Election of officers for the ensuing year resulted as follows: President, C. E. Hardwick of Hood River; Vice-President, Paul R. Vogt of The Dalles; Secretary-Treasurer, R. P. Atkinson of Hood River.

MULTNOMAH COUNTY MEDICAL SOCIETY

Pres., R. A. Payne; Secty., C. P. Wilson

Multnomah County Medical Society held a meeting at Portland, December 6. There was a short resume on "Hypertension." Kenneth Smith gave a case report of "Nephrectomy for Hypertension," and C. E. Sears spoke on "Certain Aspects of Hypertension."

At the annual meeting December 20, Mr. Don McCall of the Oregon State Police spoke on "Firearm Identification," and Dr. Joseph Beeman on the "Crime Detection Laboratory." This laboratory is run in conjunction with the Department of Pathology of University of Oregon Medical School under the Oregon State Police.

POLK-YAMHILL-MARION MEDICAL SOCIETY

Pres., C. M. Findley; Secty., B. A. Myers

Polk-Yamhill-Marion Medical Society held a meeting at Salem, December 11. The speaker for these two meetings was Frank Lynch, head of the Department of Obstetrics and Gynecology of University of California Medical School, San Francisco. His topics were "Cancer of the Uterus," "Prolapse of the Uterus" and "Uterine Bleeding." There was a very large attendance from the three counties making up the society, and also from the Central Willamette area, including Corvallis, Lebanon, Albany and Eugene. Dinner was served each evening at the Golden Pheasant Cafe, followed by the lectures. Dr. Lynch is an outstanding authority in his chosen field and is a teacher and lecturer of very wide experience. These lectures were outstanding and greatly appreciated by a very large attendance.

Henry Garnjobst of Corvallis, president of Central Willamette Medical Society, was introduced as a guest, and also Charles E. Hunt, Eugene, president of Oregon State Medical Society. Dr. Hunt spoke briefly on the Platform of the American Medical Association and on the National Physicians' Committee for the Extension of Medical Service.

WASHINGTON

FIFTY-FIRST ANNUAL MEETING, TACOMA, AUGUST 26-28

POSTGRADUATE MEDICAL EDUCATION IN WASHINGTON

In keeping with the renewed interest in graduate medical education throughout the United States, a committee on postgraduate medical education was appointed by Dr. Rhodehamel and authorized by the Board of Trustees of Washington State Medical Association, January 8, 1939.

A survey of the present situation brought to light two large problems; first, the need for correlation of the already rather extensive but sporadic and incoordinated activities in graduate medical education throughout the state. The following agencies have been sponsoring postgraduate instruction:

Existing Postgraduate Agencies

1. *University of Washington Extension Division*, in cooperation with King County Medical Society, has conducted five-day graduate medical courses during July each year since 1916. Four or more out-of-state physicians are engaged as a faculty to give lectures which are supplemented by clinics in the afternoon given by local physicians in King County Hospital. A registration fee of ten dollars is charged and the annual attendance ranges between two and three hundred.

2. *Pacific Northwest Medical Association*. In former years this association gave a five-day course of lectures conducted by invited speakers from the various medical schools. This course was open to doctors of Washington, Oregon, Utah, Idaho, Montana, British Columbia, Alberta and Saskatchewan.

3. *The State Department of Health* has been active in conducting refresher courses and clinics in obstetrics and pediatrics. This work has been aided by the committee on maternal and child welfare of Washington State Medical Association and in 1939 the division of maternal and child hygiene of the State Department of Health, together with the state committee, sponsored a three-day series of afternoon and evening lectures in seven cities throughout the state.

4. *Standing Committees of the State Medical Association*. Various committees of the state medical association such as tuberculosis, maternal and child welfare, social hygiene, etc., have conducted postgraduate instruction meetings for the various county medical societies. The committees on tuberculosis and maternal and child welfare have been particularly active in this respect.

5. *Special Society Meetings*. The following societies hold annual meetings with papers given by out-of-state speakers and clinical demonstration by members of the society: Seattle Surgical Society, a two-day course in Seattle; Tacoma Surgical Club, a one-day course in Tacoma; Puget Sound Society, a one-day course in Seattle; Spokane Surgical Society, a one-day course in Spokane; Seattle Academy of Internal Medicine, a two-day course in Seattle. These courses are open to all members of the state medical association.

The 1939 annual meeting of Washington State Medical Association held in Spokane was devoted to graduate instruction. Five instructors of Washington University School

of Medicine at St. Louis were engaged in cooperative agreement with the state medical associations of Oregon and Idaho.

All of these activities are the efforts of individual agencies and, while extremely worthy in themselves, would be much more effective if coordinated through a central committee. This would permit a more equable distribution of teaching effort as to subjects, time and place.

Continuation Courses in Outlying Districts

The second problem met by the committee was the need of taking continuation courses to practitioners in outlying districts who could not attend those provided in the larger centers. Each state has its own problem based on the geographic and population distribution of physicians, the presence or absence of a medical school and the availability within the state of men competent to teach.

Of the 2123 physicians in the state of Washington, 1388 are members of the state medical association. The annual attendance at the university extension course is between two and three hundred, usually the same men from year to year. Therefore, there exists a problem of taking postgraduate teaching to the large majority who do not get it any other way.

With these problems in mind the committee appointed by Dr. Rhodehamel, under the chairmanship of Homer D. Dudley, drew up the following program which was adopted by the House of Delegates of the state association on August 30 of this year:

1. Continuation of the University Extension course but with a more definite cooperation with Washington State Medical Association through the postgraduate medical education committee.

2. Coordination of postgraduate activities of the various scientific committees of the state medical association through the central committee.

3. Establishment of a Speakers' Bureau so that men within the state, who are competent to give papers and hold clinics, may be made available to the various county societies for their monthly meetings.

4. Inauguration of regional postgraduate lectures to be given in selected areas by a faculty of out-of-state speakers.

The present committee, consisting of R. H. Fletcher of the State Department of Health, David Hall representing the University of Washington, Richard O'Shea representing King County Hospital, Homer Dudley with A. B. Hepler as chairman, are working out the details of this program. To this end the committee has requested that the proposed programs for the coming year of the State Department of Health and of various scientific standing committees of the State Medical Association be sent to it, so that it can advise each agency what is contemplated by the others and guide and assist them in their plans.

It should be understood that this committee has no authority nor does it wish in any way to interfere with the activities of any agencies which are engaged in postgraduate instruction. Its purpose is simply to encourage these activities and coordinate them through a central committee.

Speakers' Bureau

A Speakers' Bureau, made up of men from within the state who are willing to respond to the call of the various county societies to present papers and hold clinics, is being

arranged. Each member of the state association is being sent an outline of the plan for the Bureau with a blank for his name and the subjects which he would like to discuss, to be returned to the central office. The committee will make up a list of speakers and subjects from the submitted names and will send this list from time to time to the various county societies, so that they may make up their monthly programs well in advance, if they wish to use the Bureau. If much travel or loss of time is involved, the speaker's expenses will be paid by the local society. The programs of various other state committees, who are giving postgraduate instruction and of the State Department of Health, will be included in this list.

To fulfill the need of continuation courses for practitioners in the outlying districts the committee has devised a plan of regional postgraduate lectures as follows:

Out-of-State Lecturers

It is proposed to secure five competent out-of-state speakers to give lectures and clinics on the following subjects: obstetrics and gynecology, pediatrics, surgery, medicine and traumatic surgery and fractures. These lectures are to be designed primarily for the general practitioner.

The state is to be divided into five districts, based on the geographic distribution of physicians. A town will be selected in each district in which the lecture course and clinics will be given. This selection will not be based on the physician population but rather on its central location so that it may be easily reached from all parts of the district. The following division of the state has been made:

District I. Counties: Clallam, Jefferson, Mason, Thurston, Kitsap, Grays Harbor, Pierce, Cowlitz, Clark and Lewis. The lectures are to be held in Olympia.

District II. Counties: Whatcom, Skagit, Snohomish and King. The lectures are to be held in Everett.

District III. Counties: Okanogan, Chelan, Kittitas and Yakima. The lectures are to be held in Wenatchee.

District IV. Counties: Walla Walla Valley, Whitman and Klickitat. The lectures are to be held in Walla Walla.

District V. Counties: Spokane, Lincoln and Stevens. The lectures are to be held in Spokane.

The meetings will be held one afternoon and evening a week for five consecutive weeks in each district. They shall consist of afternoon clinics at the local hospital with consultations and round table discussions, followed by lectures in the evening. It is proposed to cover the districts in the following manner: For example, if the opening meeting is held in Olympia on Monday, the speaker will move on to Everett in District II, where the meeting will be held on Tuesday; he will then proceed to Wenatchee in District III for a meeting on Wednesday and to Walla Walla in District IV for a meeting on Thursday and the final meeting in Spokane on Friday or Saturday. In this way the entire state can be covered in one week by one lecturer. The following week the second speaker will follow the same circuit and so on until all five speakers have covered the state in five consecutive weeks.

This arrangement does not make any extraordinary inroads on the local physician's time or practice because only one afternoon and one evening a week are given to this course. The lecture centers are within easy driving distance from all parts of the districts.

A fee of ten dollars will be charged for the entire course which will be used to cover fees to the speakers and administration expenses. This program is in its incipency and details may have to be modified as experience dictates.

MEDICAL NOTES

HOSPITAL GETS STATE GRANT. Board of County Commissioners of King County has received a grant of \$6,577 from the State Department of Social Security with which to equip the long unused ninth floor of King County Hospital. It is estimated that an additional \$40,000 will be required for operation of the floor next year.

CHURCH HOLDS MEDICAL SERVICE. Westminster Presbyterian Church, Seattle, held a special service on "Medicine and Religion" Sunday evening, November 26. At the invitation of the pastor, several members of King County Medical Society addressed the gathering.

DEACONESS PATHOLOGIST APPOINTED. G. A. C. Synder, who for the past year has been pathologist at the Western State Hospital at Fort Steilacoom, has been appointed pathologist of Spokane Deaconess Hospital, replacing James D. Edgar, recently resigned.

COUNTY OFFICE APPOINTMENTS. George H. Johnson, county physician of Clark County for the past two years, will become county health officer, following resignation of J. A. Kahl. Before assuming active duty, he will take postgraduate work in public health in one of the eastern schools.

C. E. Tohy of Snohomish has been appointed medical superintendent of the Aldercrest Sanatorium and the Snohomish County Hospital at Monroe. Former lay officials will be retained and will work under Dr. Tohy's direction.

T. C. Baldwin has been appointed Kitsap County Health Officer and John Porter has been named county physician and superintendent of the Sunnyside County Hospital.

TRANSIENT LABOR CAMPS. Standard family farm labor camp of the Farm Security Administration is to be erected at Puyallup at a cost of \$266,000. This is part of the F.S.A. program for care of transient farm laborers. Similar camp is to be constructed at Walla Walla at a cost of \$262,000.

HOSPITAL OPENED. Klickitat General Hospital at White Salmon was opened in November after remodeling and installation of new equipment.

PHYSICISTS USE HOSPITAL. University of Washington physicists have been using 800,000 volt equipment at Swedish Hospital, Seattle, in atom smashing experiments.

COUNTY PHYSICIAN OPENS CLINIC. C. R. Fargher, county physician for Chelan County, has suggested opening a clinic in Cashmere for those people who formerly traveled to Wenatchee for service.

E. WELDON YOUNG of Seattle has been named governor of American College of Surgeons and a member of the Board of Directors of Grogas Memorial Institute, Washington, D. C.

WEDDINGS. P. D. Trudgeon of Dayton, Wash., and Miss Bonnie Litherland of St. Helens, Ore., were married at the home of the bride November 24. T. P. Conners and Miss Dola Ridge of Tonasket were married November 24. George F. Luger and Miss Loretta Maloney, both of Spokane, were married in that city December 30.

SEATTLE SURGICAL SOCIETY will hold its annual dinner and clinics January 26-27. The program will consist of papers by members of the society which will be presented in morning and afternoon sessions. The guest speaker will be Dr. Stuart Harrington of the Surgical Section, Mayo

Clinic, who will discuss papers read at the end of each morning and afternoon session. There will be a dinner each evening, when Dr. Harrington will deliver an address. Papers will be presented by members of the society in the following order: Howard B. Kellogg, H. Eugene Allen, Paul R. Rollins, John A. Duncan, William B. Cook, O. F. Lamson, Conrad Jacobson, Hale Haven, H. J. Wyckoff, D. A. Murray, Ralph H. Loe, Roscoe E. Mosiman, Carl M. Helwig, Roger Anderson, Homer D. Dudley, Donald V. Trueblood, O. A. Nelson.

OBITUARY

DR. CHARLES HENDERSON of Lind, Wash., died of heart attack December 1, aged 71 years. He was born at Xenia, Illinois, June 28, 1868. Prior to his medical training, he was educated for the ministry, but at the suggestion of his brother, J. W. Henderson of Longview, he entered the University of Illinois College of Medicine and graduated from that institution in 1906. He had practiced in Washington from the time of his graduation from medical school and was in active practice at the time of his death. He was long interested in civic affairs and served as city health officer for many years.

SOCIETY MEETINGS

COWLITZ COUNTY MEDICAL SOCIETY

Pres., J. S. McCarthy; Secty., R. E. Freeman

Cowlitz County Medical Society held a meeting at Hotel Monticello, Longview, December 20, several physicians from surrounding districts being present.

The following officers were elected to office: C. J. Hoffman, Woodland, president; R. J. LaRue, Castle Rock, vice-president; L. S. Roach, Kalama, secretary; J. L. Norris, Longview, corresponding secretary.

Morey N. Girling of Longview presented a case of "Conical Cornea." Ray Zech of Seattle discussed "Upper Abdominal Surgery." James Bowers of Seattle read a paper on "Diagnosis and Treatment of Anemias."

KING COUNTY MEDICAL SOCIETY

Pres., H. E. Coe; Secty., David Metheny

King County Medical Society held a regular meeting in the auditorium of Medical-Dental Building, Seattle, at 8:15 p. m., November 6, President H. E. Coe presiding.

C. E. Watts presented a paper entitled "Cardiac Arrhythmias." He discussed sinus tachycardia and four types of paroxysmal tachycardia, auricular paroxysmal, ventricular paroxysmal, auricular flutter and paroxysmal auricular fibrillation, with descriptions of each, mention being made of pathology as far as it is known. Treatment and prognosis were duly discussed for each condition.

Ray Somers considered "The Approach to Cardiac Problems in Childhood." He discussed the nature of cardiac signs in childhood, stating that in case of cardiac lesions one must decide whether the sound is pathologic, congenital or acquired and whether it is in an active stage. Pathology and treatment of each were discussed.

Austin G. Friend read a paper on "The Heart Patient." He described methods of treating not only the patient but friends and relatives who are always much concerned. Various symptoms were mentioned with their significance and

methods of treatment. The papers were discussed by P. V. von Phul and Brien T. King.

KITSAP COUNTY MEDICAL SOCIETY

Pres., Joseph Coyle; Secty., C. E. Benson

Regular meeting of the Kitsap County Medical Society was held at the Olympic Hotel, Bremerton, December 12. Joseph Coyle was elected president; J. D. Haddon, vice-president, and C. E. Benson, secretary.

SNOHOMISH COUNTY MEDICAL SOCIETY

Pres., William Wagner; Secty., O. W. Anderson

Annual meeting and banquet of the Snohomish County Medical Society was held at the Everett Golf and Country Club December 7. New officers installed at this meeting were W. J. Wagner, president; J. W. Darrough, vice-president; and O. W. Anderson, secretary-treasurer, all of Everett.

Tribute was paid during the meeting to H. B. Howard who has practiced medicine for forty-seven years, forty-one of which were in Everett. Guest speaker of the evening was Frank Davidson who discussed various phases of the European situation.

WALLA WALLA VALLEY MEDICAL SOCIETY

Pres., J. C. Lyman; Secty., R. W. Stevens

December meeting of the Walla Walla Valley Medical Society was addressed by T. Homer Coffin of Portland, Oregon, who discussed old and new ideas on heart disease.

WHITMAN COUNTY MEDICAL SOCIETY

Pres., L. G. Kimzey; Secty., E. N. Layton

Regular meeting of Whitman County Medical Society was held at St. Ignatius Hospital, Colfax, December 7. Committees for the ensuing year were appointed. C. R. Goodhope of Garfield was elected to membership, and a case report was presented.

YAKIMA COUNTY MEDICAL SOCIETY

Pres., H. M. Makins; Secty., Victor Johnson

Regular meeting of the Yakima County Medical Society was held at the Commercial Hotel, Yakima, December 11.

Election of officers resulted in selection of H. M. Makins of Selah, president; H. C. Lynch of Yakima, vice-president; and Victor Johnson of Yakima, secretary. B. S. Creswell was reelected treasurer and J. E. Bittner, Jr., was elected to the board of censors.

Scientific portion of the program was given by Robert Benson of Portland who spoke on "Recent Developments in the Field of Allergy," and Frank Berلمان, also of Portland, who spoke on "Therapeutics."

WOMAN'S AUXILIARY

AUXILIARY ACTIVITIES

Seattle, Washington

December 21, 1939

A Happy New Year, outstanding in service and rich in friendships, is the greeting from every member of the Board of the State Auxiliary to every doctor's wife in Washington.

Spokane County has not yet been mentioned in these columns this year, and as they have done exceptional work a brief review of their activities is in order. In September a

review of the state convention was given at their regular meeting, presided over by the president, Mrs. E. R. Northrup. A vote of thanks is due to them for their hospitality during the convention last fall. Mrs. Max Wright was installed as new president, and committee chairmen were introduced. The annual membership tea was the occasion for the October meeting in Spokane, at which Mrs. Luman Roach, State President, was special guest, speaking on auxiliary objectives. Dr. Arthur Lein, County Medical Society President, spoke on care of the premature infant, illustrated by pictures. At their November meeting a study of the Wagner Health Bill was directed by Dr. Harry Rhodehamel. Copies of "On the Witness Stand" were distributed, and contributions were voted for the Community Chest, Child Guidance Clinic and Anti-Tuberculosis work. A musical program and tea followed.

Pierce County Auxiliary sponsored an open forum on "Doctor, How Can I Keep Well?" for their November meeting. Through the fine work of Mrs. R. D. MacRae, Public Relations Chairman, Federated Women's Clubs in Tacoma had been notified of the forum, and had responded with a number of questions to be answered at the open meeting. Many of the questions dealt with socialized medicine, thus providing Dr. Horace Whitacre, chairman of the forum, with an excellent opportunity to present the views of scientific medicine on this subject. About three hundred and fifty persons attended, and the program was repeated by popular request on a radio broadcast.

A review of the Wagner Health Bill by Mrs. Kenneth Graham was featured at the November meeting of Grays Harbor Auxiliary, followed by discussion of magazine articles on medicine, and medical legislation in general. "Dr. Addams," by Irving Fineman, was reviewed by Mrs. M. F. Fuller, and plans were made for a Christmas gift to Oakhurst Sanatorium, which Grays Harbor has chosen for their philanthropy this year.

Walla Walla County Auxiliary sponsored a meeting of the Women's Field Army, American Society for the Control of Cancer, in Walla Walla last November. Auxiliary members are prominent in the activities of the Cancer Control Society, and Walla Walla members are particularly generous of their time in this connection.

The Hygeia contest is uppermost in the minds of Clark County Auxiliary members at this time, and a report on their progress to date was given at their November meeting. Mrs. Roach, State President, was guest speaker. Clark County usually meets jointly for dinner with the medical society members, and in December, following a joint meeting, auxiliary members prepared layettes as Christmas gifts to the hospitals. Mrs. Roach, State President, reviewed the National Auxiliary Convention in St. Louis for members of Yakima County Auxiliary in December.

Our Auxiliary's Public Relations Department is perhaps our most important work, embracing as it does every activity in which we are connected with the layman. We are presenting this month an article on Public Relations, prepared by Dr. Phyllis Leibly, State Public Relations Chairman:

During the next few months, your State Public Relations Committee is asking for your earnest and special cooperation. Public relations embraces everything that links the Woman's Auxiliary to the Washington State Medical Association with any outside organization or project. This year we are especially concerned with certain legislative measures which may be presented early in the next session of Congress.

In the Auxiliary we have before us two main objectives:

First: To acquaint the public with the means of securing authentic information on health.

Second: To present the attitude and aims of the American Medical Association on the National Health issues.

MRS. SOUREN H. TASHIAN,

Publicity Chairman.

IDAHO

FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPTEMBER 11-14

MEDICAL NOTES

HOSPITALS HOLD OPEN HOUSE. Both Mercy and Samaritan Hospitals at Nampa held open house December 27 for all friends of the institutions and patients during the past year. Guides conducted visitors over the hospitals and explained features of the technical equipment of the two institutions. It is planned to make this an annual event.

BOISE PHYSICIAN FLIES TO PRACTICE. F. L. West, long an aviation enthusiast and private pilot, is utilizing his own airplane to commute between Boise and Sun Valley, where he has temporarily taken the practice at the resort.

SMALLPOX DIMINISHED. It is reported that marked reduction has been made in the incidence of smallpox in the last two years. This attributed to the extensive campaign for vaccination urged throughout the state.

SOCIETY MEETINGS

POCATELLO MEDICAL SOCIETY

Pres., N. H. Farrell; Secty., B. C. Eisenberg

December meeting of Pocatello Medical Society was held at the Bannock Hotel, Pocatello, December 6. At this meeting the following officers were elected: N. H. Farrell, American Falls, president; R. P. Howard, Pocatello, vice-president; B. C. Eisenberg, Pocatello, secretary-treasurer.

Speaker for the evening was Espey Cannon of Salt Lake City, Utah, who addressed the Society on "Recent Developments in the Anemias." Dr. Cannon urged physicians to use all laboratory facilities available to establish a correct diagnosis in the treatment of cases of anemia before beginning treatment.

The statistical and financial report of the secretary for the year 1939 was read and approved. Membership to date is forty-four.

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BOOK REVIEWS

ENDOCRINE GYNECOLOGY. By E. C. Hamblen, B.S., M.D., F.A.C.S. Associate Professor of Obstetrics and Gynecology, Duke University School of Medicine, etc. 453 pp., \$5.50. Charles C. Thomas, Springfield, Ill., 1939.

The first section of this volume presents an up-to-date summary of the information available on sex hormones; the second discusses growth and development, functioning during maturity, and later regression of the sex aspect from an endocrinologic angle; the third considers deviations in sex aspect, dependent on variations in endocrine principles. The subject is presented thoroughly and authoritatively.

The great progress made in the laboratory is evidenced in part one. The dependence of sex physiology upon hormones is clearly indicated in part two. The difficulty of utilizing laboratory information in attempts to alter physiologic deviations in clinical work is presented with equal clearness in part three. The book is a timely summary of a subject, concerning which the doctor's desk is flooded with leaflets, tracts and pamphlets making claims for particular endocrine preparations.

An additional point of interest to the reviewer is the reproduction as a frontispiece of a drawing, produced through the inspiration and under the direction of Dr. Homer Wheelon of Seattle, representing endocrinopathies which came under his observation. C. F. DAVIDSON

PHYSIOLOGICAL CHEMISTRY. A Textbook for Students. By Albert P. Mathews, Ph.D., Andrew Carnegie Professor of Biochemistry, the University of Cincinnati. Sixth Edition. Illustrated. 1488 pp., \$8.00. The Williams & Wilkins Company, Baltimore, 1939.

"The biological sciences, and biochemistry . . . are transforming medicine into a science." "Medicine, . . . is gradually becoming, in its material aspects, an exact science. Biochemistry and physics and chemistry and all the biological sciences have contributed and are contributing to this fortunate result." This edition, thoroughly revised, brings up to date this rapidly changing scientific aspect of medical knowledge. It is impossible to attempt a review of so profound a volume.

Part I deals with The Chemistry of Protoplasm and the Cell. Herein are presented the basic principles on which this science is founded. Part II deals with The Mammalian Body Considered as a Mechanism. Its Growth, Maintenance, Energy Transformations and Waste Substances. There are chapters concerning digestion, blood, brain and nervous system, muscles and other bodily constituents, which are commonly considered in a book of this character.

PSYCHOBIOLOGY AND PSYCHIATRY. A Textbook of Normal and Abnormal Human Behavior. By Wendell Muncie, M.D., Associate Professor of Psychiatry, Johns Hopkins University, etc. With 69 Illustrations. 740 pp., \$8.00. The C. V. Mosby Company, St. Louis, 1939.

This exposition of the psychobiologic system reflects all the bad points as well as the good in this approach to psychiatry. One pities the students who have to wade through the verbose terminology of this special brand of psychiatry with its "experiment of nature" and "distributive analysis." Students at Johns Hopkins apparently are required to analyze themselves in writing as part of their course, one can imagine under somewhat of a protest. It

is too bad that someone does not write a text on psychiatry, using plain ordinary every day medical terms that would fit in with the rest of medical teaching. After all, is the physiology and pathology of the brain so very much different from that of other organs that it has to be clothed in jargon not understandable to any but the initiated?

The redundancy of the book is somewhat annoying, as much space is devoted to trying to convince the reader that psychobiology is really a fine thing after all. There is even a section listing various objections to the theory of psychology with involved answers to these objections. Psychobiology would seem to be on the defensive and in need of selling itself, even in its own textbook.

In spite of these objections, psychobiology is probably the most practical system of psychiatry from the clinical standpoint, if one has to have a system. The significance of hereditary and constitutional factors is not glossed over. Diagnosis is secondary to the facts of the individual case and their relation to treatment possibilities, an important consideration where diagnoses are often confused by the complexities of human personality. The diagnostic classification is flexible and treatment somewhat homespun.

F. LEMERE.

OBSTETRICAL PRACTICES. By Alfred C. Beck, M.D., Professor of Obstetrics and Gynecology, Long Island College of Medicine, etc. More than One Thousand Illustrations. Second Edition. 858 pp., \$7. The Williams & Wilkins Co., Baltimore, 1939.

About one hundred and fifty pages of up-to-date information have been added to this edition. Circulation of placental site and physiology of the placenta are included, with more information on ductless glands and metabolism. Mechanism of labor is beautifully described and illustrated, using the O. L. A. presentation and position.

Chapters on the management of labor, the puerperium and lactation are thoroughly covered. Much space is devoted to mechanisms of every possible presentation, a difficult subject to student, general practitioner and specialist alike. The ever present problem of abortion is elaborated upon.

The chapter on the toxemias of pregnancy, discussed in detail, is disappointing, as the treatment is empirical and will continue to be so until the cause of eclampsia is known. The newer conception of pelves is dealt with in a clear and concise manner, under the heading of faulty passages and contracted pelves. The comment is praise for this text which so lavishly uses more than a thousand illustrations in order that it can be thoroughly understood.

C. M. HELWIG.

TUMORS OF THE HANDS AND FEET. Edited by George T. Pack, B.S., M.D., F.A.C.S., Assistant Clinical Professor of Surgery, Yale University School of Medicine and Cornell University College of Medicine, etc. 138 pp., \$3.00. The C. V. Mosby Company, St. Louis, 1939.

"With the exception of the so-called vital organs, the hand is functionally and economically the most important unit in the body." Therefore, infection, injuries and malformations of these structures are of great concern. This volume deals with carcinomas, melanomas and angiomas of hands and feet, as well as tumors of the synovia, tendons and joint capsules, including tumors primary in bones of hands and feet. Numerous illustrations supplement the text, emphasizing diseases and methods of treatment.

NORTHWEST MEDICINE

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EDITORIALS

IMPORTANCE OF STATE SECTIONS

Special attention of readers is called to subjects discussed under State Sections, pertaining to each of the state associations. Everyone is advised to read these each month in order that he may be posted on activities and matters of importance concerning his own organization.

PENDING MEDICAL LEGISLATION

In recent years there has been so much agitation concerning the practice of medicine and its relation to the general public, that all legislative bodies have felt compelled to enact or propose bills affecting care of the sick. Residents of every state have had these matters brought before them when their respective legislatures have been in session. Many bills have been introduced in Congress, dealing with medical matters, affecting the interest and welfare of the whole population. Unless one has his attention called particularly to the matter, probably he does not realize the various angles which are under consideration by our national representatives. Herewith is presented a summary of bills pending for consideration at the present congressional session. All of them have been dealt with more extensively in recent issues of *Journal of the American Medical Association*. In substance they are as follows:

Wagner Bill—S. 1620 introduced by Sen. Wagner (N. Y.). This bill purports to provide for the general welfare by enabling the states to make more adequate provision for public health.

Lodge Bill—S. 2963 introduced by Sen. Lodge (Mass.), to add a new title to the Social Security Act providing for a system of health insurance to assist "Qualified individuals to receive medical services when they require such care but are without means."

Capper Bill—S. 658 introduced by Sen. Capper (Kan.), proposing an annual federal appropriation of \$20,000,000 to induce the states to develop and maintain adequate systems of health insurance.

Cancer Bill—H. R. 4585 introduced by Rep. Rogers (Mass.), proposing to amend the National Cancer Institute Act so as to authorize an additional appropriation of \$2,300,000 for the fiscal year ending June 30, 1940, and for each fiscal year thereafter such sums as may be necessary to assist the states, counties, cities, etc., to extend measures through institutions and organizations for the diagnosis, treatment and control of cancer.

This journal goes to press the first day of the month. Material for publication should be received by the 25th of the preceding month.



Reprints will be furnished by the printer according to the schedule of prices which accompanies the galley proofs submitted to the author. The order for reprints should accompany the returned galley proofs. The printer holds the type until the first of the following month.



Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

Epilepsy—S. 1557, introduced by Sen. Shipstead (Minn.), is a bill "to provide for, foster, and aid in coordinating research relating to epilepsy and other allied and nervous disorders." This bill is modeled closely after the National Cancer Institute Act.

Tuberculosis—S. 471 and S. 2547 were introduced by Sen. Murray (Mont.). The former bill proposes to authorize an initial appropriation of \$5,000,000 and for each fiscal year for four consecutive years a sum sufficient to enable each state to make adequate provisions for hospital beds for tuberculous patients. The latter bill proposes federal subsidies to assist states, counties, cities, etc. of the states to establish, extend and improve measures for the prevention, treatment and control of tuberculosis.

Pneumoconiosis—S. 2256, introduced by Sen. Murray (Mont.), proposes to promote the general welfare by enabling the states to make more adequate provisions for compensation for the disability or death of workers from silicosis or other dust diseases.

Medical Care for Nonresidents—H. R. 2974 and H. R. 2975 by Rep. Voorhis (Cal.), proposes to amend the Social Security Act to provide aid to states in furnishing medical care to nonresident needy persons on the same basis as to resident needy persons. The second bill proposes authorization of an initial appropriation of \$10,000,000 and thereafter for each fiscal year a sum sufficient to carry out the purposes of the bill.

Aid for the Blind—S. 2215, introduced by Sen. Davis, H. R. 5134 and H. R. 5272, introduced by Rep. Dunn, and H. R. 5980, introduced by Rep. Van Zandt, all of Penn., proposes to permit each state to place its own interpretation on the term "needy individuals who are blind" as used in the Social Security Act.

H. R. 5841 by Rep. Patrick (Ala.), proposes to amend the Act by adding a new title thereto, under which an appropriation of \$1,000,000 will be authorized to enable the states to aid in restoring sight to the blind by furnishing hospitalization.

H. R. 5870 by Rep. Angell (Ore.), proposes to authorize federal appropriations to enable the Social Security Board to pay annuities to blind persons.

S. 2214 by Sen. Davis and H. R. 5979 by Rep. Van Zandt (Penn.), provide for financial assistance to the blind by adding a provision that the Social Security Board shall not disapprove any plan because it provides for financial aid to blind persons having an annual cash income of not more than \$1200.

Aid to Physically Disabled Persons—Numerous bills are pending proposing to amend the Social Security Act so as to provide for the payment of benefits to persons who are physically handicapped to such an extent that they are unable to engage in a gainful occupation.

United States Department of Health—Rep. Pfeifer (N. Y.), has introduced H. R. 4791 proposing to establish a federal department of health to be headed by a Secretary of Health appointed by the President from the medical profession, by and with the consent of the Senate. The bill provides that the Department of Health shall promote and maintain health and sanitation and for such purposes it will be authorized (1) to conduct research, experiments, formulate and foster plans and compile information; (2) to perform such functions relating thereto as shall be authorized by law, and (3) to cooperate with official agencies established by law in the several states and subdivisions thereof.

POPULAR DISTRIBUTION OF VITAMIN AND HORMONE PRODUCTS

No greater interest has been excited among the general public in recent years concerning medical discoveries than has been displayed regarding vitamins and the hormones pertaining to sexual activities. There is so much uncertainty still existing regarding the therapy of these products that even physicians are often confused regarding their correct applications. The lay press, however, has given

en so much publicity to incorrect as well as correct information regarding them that there is a popular belief that their administration will work magic effects in certain obscure conditions, puzzling even to the medical profession. It is not generally known by the uninformed public that these products, if improperly digested, may have harmful rather than beneficial results.

Sale of these preparations should be prohibited except by druggists and dispensing by them should be restricted to the physician's prescription. The National Association of Retail Druggists is conscious of the abuse which may be exercised in dispensing these products. Their views were expressed at a recent meeting embodied in the following resolutions which should command the recognition and endorsement of the medical profession:

Whereas, since the comparatively recent discovery and development of vitamins, many avenues of distribution such as mail order houses, groceries, etc. are selling such vitamins, and

Whereas, the sale by such outlets is detrimental to public welfare; therefore, be it

Resolved, that in the interest of public health the sale of such products should be restricted to drug stores; and be it further

Resolved, that until such time as proper safeguards to circumscribe the sale of vitamin products can be promulgated, the N.A.R.D.[®] specifically requests vitamin manufacturers to restrict their sale to drug channels; and be it further

Resolved, that a copy of this resolution be sent to the American Medical Association and to all state medical societies.

ACCURACY IN TREATMENT OF SYPHILIS

With the recently enhanced interest in syphilis there is growing a renewed attention to the Wassermann test and its significance. An untold amount of harm has occurred because some physicians, after treating patients for a few months, have told such individuals they were cured because a negative test was returned from the laboratory. No patient should be allowed to stop treatment until he has received the minimum specified by the Co-operative Clinic Group, or until the Wassermann reaction has been persistently negative for at least one year. Following discontinuance of treatment, the patient should be told to take a test every six months for three years and every year thereafter as long as he lives. Thus recurrences may be discovered before they have produced irreparable damage. Such recurrences have occurred all too frequently to the everlasting shame of the medical profession.

Not only, however, is a negative test a source of error; there is a growing feeling among laboratory people that there are at present too many false positives. Under the methods of laboratory standardization being sponsored by the U. S. Public Health Service, there has been a tendency

in recent years to increase the sensitivity of the setups. Thus, many who formerly would have shown a negative or mild positive are now being reported as 4-plus. Since the blood substance which gives the test is present in small amounts in the normal individual, and only intensified in the syphilitic, it follows that a setup too sensitive will falsely incriminate many normal individuals.

BEWARE OF THESE IMPOSTERS

Apparently the medical profession is looked upon as easy game by professional fakers since they are so often ready victims of smooth-tongued artists. The profession of the Northwest is warned against a faker who has already worked successfully in California. His game is selling surgical instruments for which he collects in advance, and also sells books for J. W. Stacey, Inc. of San Francisco. He has at times delivered some of their books, but has not returned the money to the publishers.

This imposter has operated under the names of Logan Matthew Franey, Robert Duane Shelton, T. E. Shelton, L. M. Stinson and H. L. Jarrett. Why should a doctor be so simple as to pay for instruments before he receives them? Stacey of San Francisco seeks information from anyone being bilked by this faking artist.

Another imposter is working the ophthalmologists. His game is to order glasses and pay for them with a check which commonly has some one's endorsement beside his own, from which he profits by the change contributed to him. The only explanation for a doctor being taken in by this old faking game is that "a sucker is born every day." This man has operated under the names J. B. Powers, W. C. Curran and W. C. Cursey. He seems to have worked extensively in the middle west, and more recently has found a field in Idaho. Probably he is headed for the coast.

A NEW STATE JOURNAL

With few exceptions all of the state medical associations either publish their own monthly journals or are grouped with proper representation in a united publication. The latest addition to this list is *North Carolina Medical Journal*, the official organ of the Medical Society for the State of North Carolina. The editor is Dr. Wingate M. Johnson, Winston-Salem, North Carolina. The journal presents an attractive appearance, being set up along lines characteristic of a well established publication. Editorials are on timely subjects, and the articles discuss problems of vital interest to the profession. This publication is welcome into the family of state medical journals.

ORIGINAL ARTICLES

CHOLECYSTOGRAPHY

APPRAISAL AFTER FIFTEEN-YEAR PERIOD*

SHERWOOD MOORE, M.D.

Professor of Radiology,
Washington University School of Medicine
ST. LOUIS, MISSOURI

Cholecystography is a threadbare subject as is shown by the fact that since 1930 two hundred and ninety-five papers on it are listed in the *Index Medicus*. Since the first publication of Graham and Cole¹ in 1924, there have been in addition many other communications on cholecystography.

It should be recalled that cholecystography, as discovered by Graham and Cole, constituted a new departure in the use of artificial contrast media, the utilization of the specific function of an organ to increase its density. The only parallel procedure discovered later is that of intravenous pyelography.

Graham and Cole were of the opinion that, if the gallbladder could be made opaque, much of a pathologic-anatomic nature would be discovered. However, it was soon found that cholecystography was chiefly a test of the functional capacity of the liver, the gallbladder and their ducts.

Among the chief additions to the substances used in cholecystography since Graham and Cole's publication has been their own contribution of phenol-tetraiodophthalein sodium (iso-iodeikon)² which, because of its power of staining the blood serum, is an effective method for estimating the excretory power of the liver. Other substances which have been used are the magnesium,³ instead of the sodium salt of the halogenated phenolphthaleins, and at a later date the caesium salt.⁴ There does not appear to be sufficient advantage in these last two salts to warrant their substitution for the sodium salt of tetraiodophthalein or its isomer.

The contribution to cholecystography which has been most popular was the discovery and development of the oral use of the dye by Menees and

*From the Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine.

*Read before Annual Meetings of Idaho State Medical Association, Boise, Ida., Aug. 23-26, 1939, and Washington State Medical Association, Spokane, Wash., Aug. 28-30, 1939.

1. Graham, E. A. and Cole, W. H.: Roentgenologic Examination of Gallbladder. New Method Utilizing Intravenous Injection of Tetrabromphenolphthalein. *J. A. M. A.*, 82:613-614, Feb. 23, 1924.

2. Graham, E. A., Cole, W. H., Copher, G. H. and Moore, S.: Cholecystography: Use of Phenoltetraiodophthalein. *J. A. M. A.*, 86:1899, June 19, 1926.

3. Matsuo, I.: Magnesium Sulphate as Cause of Evacuation of Gallbladder. *J. A. M. A.*, 83:1289-1292, Oct. 25, 1924.

4. Johnson, J. B. and Hitzrot, L. H.: Caesium Tetraiodophenolphthalein. New Salt for Cholecystography. *J. Pharmacol. & Exper. Therap.*, 54:358-366, 1935.

Robinson.⁵ Other contributions have been the use of fat meal to bring about emptying of the gallbladder after it is visualized,⁶ the rapid method of cholecystography by administration of either oral or intravenous glucose,⁷ the "double dose," or reinforced method of Stewart and Illick,⁸ and the use of decholin to increase the size of the visualized gallbladder as advocated by Jankelson and Altman.⁹ Of all the methods by which the dye can be introduced, only the intravenous and oral paths are practical.

In the work on cholecystography in our clinic we established the criteria of the pathologic biliary tract, when the intravenous administration of cholecystographic dyes was used. These are, in the order of their importance, the following:

- Nonvisualization of the gallbladder.
- Faint visualization of the gallbladder.
- Delayed appearance of the gallbladder shadow.
- Deformity of the gallbladder.
 - Congenital.
 - Acquired.
 - Intrinsic.
 - Extrinsic.
- Pericholecystitis.
- Cholelithiasis.
- Persistence of the gallbladder shadow.
- Excessive size of the gallbladder.

Carman and Kirklin¹⁰ added another diagnostic sign, filling defects due to intracystic tumors of the gallbladder wall, most commonly papillomata, and, second in frequency, adenocarcinomata.

We shall not consider congenital deformities of the gallbladder (fig. 1), for, if they are visualized, they are per se probably normal, anatomic variations. This includes the bifid or double gallbladder and various unusual forms. In this connection it must be remembered that the gallbladder is far more constant in size and shape after the organ is removed from the body than it would ever appear to be from examination of cholecystograms.

It has been our constant endeavor to keep both the method of cholecystography and its interpretation as simple as possible. For that reason gallbladders are classified as either normal or pathologic instead of using the terms *functionless*, *impaired function*, etc. as employed by many others. These terms are objected to for the reason that the functions of the gallbladder are not known. Among

these functions are: ability to fill, ability to empty, ability of concentrating its contents. Cholecystography is a measure of these three functions of the gallbladder and these functions only. In the normal individual, if the intravenous administration of phenoltetraiodophthalein sodium is used, the gallbladder starts becoming opaque within from two to four hours, and has increased in density from the eighth to the twelfth hour with some alteration in size and possibly shape. At the twenty-fourth hour, after the resumption of normal diet, it is no longer seen. Departure from this behavior constitutes what we call a pathologic gallbladder. With the oral method, the organ is seen from the tenth to the twelfth hour, increases in density at the sixteenth hour, and after the nineteenth hour with resumption of diet, promptly disappears.

SELECTION OF PATIENTS FOR CHOLECYSTOGRAPHY

In our clinic cholecystography is not used in cases in which the history, symptoms and findings conclusively point to gallbladder disease. In acute



Fig. 1. Double gallbladder.

disease of any sort, either abdominal or other, the method is not used. The intravenous method is employed in those cases where the evidence points to involvement of the biliary tract and yet there remains some uncertainty in diagnosis. In such cases intravenous cholecystography is carried out, and following this, if it is in order, a gastrointestinal examination with the opaque meal is done. All routine gastrointestinal examinations have cholecystography by the oral method. If the gastrointestinal examination is negative or inconclusive, and there is doubt about the oral cholecystograms, then the intravenous method is used.

5. Menees, T. O. and Robinson, H. C.: Oral Administration of Sodium Tetraiodophenolphthalein for cholecystography. *Radiology*, 5:211-221, Sept., 1925.

6. Graham, E. A., Cole, W. H., Copher, G. H. and Moore, S.: *Diseases of the Gallbladder and Bile Ducts*, p. 83, Lea & Febiger, Philadelphia, 1928.

7. Antonucci, C.: *Technic of Rapid Cholecystography*. *Presse Med.*, 40:983-986, June 22, 1932.

8. Stewart, W. H. and Illick, H. E.: Intensified Oral Cholecystography: Preliminary Report. *Am. J. Digest. Dis. & Nutrition*, 1:337, July, 1934.

9. Jankelson, I. R. and Altman, W. S.: Decholin-sodium in Cholecystography. *New England J. Med.*, 206:796-799, April 11, 1932.

10. Kirklin, B. R.: Personal communication.

CONTRAINDICATIONS FOR CHOLECYSTOGRAPHY

These are not numerous. Intravenous cholecystography should never be carried out in the face of cardiac disease, if there is low blood pressure. We have frequently done it in known cases of cardiac disease with excellent results, where the factor of low blood pressure did not exist. It is probably safer in cardiac disease to resort exclusively to the oral method of cholecystography. We believe that disorders of the alimentary tract characterized by nausea, vomiting, diarrhea constitute an absolute contraindication to the oral method of cholecystography. In our hands, we have found that jaundice from any cause whatsoever has invariably resulted in nonvisualization of the organ. It is probable that advanced disease of the liver from any cause constitutes absolute contraindication to cholecystography by either method, as the elimination of the dye might throw an additional strain on the liver. Alexander and Bond¹¹ in this clinic found that nonvisualization of the gallbladder resulted in twenty-eight consecutive cases of liver enlargement.

In at least one physiologic condition cholecystography fails, and for unknown reasons. That is in the late months of pregnancy. Prior to the fourth month of pregnancy the organ is readily visualized. Therefore, because of the nature of this test, cholecystography should be omitted in pregnancy. In rare instances inability to reach the vein with the injecting needle will decide the question of oral administration of the dye, and certain psychic factors operate in the same way.

METHODS OF ADMINISTRATION OF
CHOLECYSTOGRAPHIC DYES

A. Intravenous. Preliminary filming of the gallbladder should always be done. The reason for this is that stones may be discovered and thus the patient may avoid cholecystography. Calcified stones, especially if small, may be concealed by the concentrated dye, as has been claimed by many writers and which we have experienced. Where there is unusual or multiple calcification in the gallbladder region, a preliminary film has proved most helpful in cholecystographic interpretation. There is no reason to believe that calcified stones are made more visible or that the dye is deposited on them as has been suggested as an advantage by some writers.

No particular preparation of the patient is required, save that gastric digestion be not proceeding when the injection is made. The injection is done between eight and nine o'clock in the morning with the gravity method. For the average

individual a dose of $2\frac{1}{2}$ gm. of phenoltetraiodophthalein sodium, dissolved in 30 cc. of water is administered. On puncture enough blood is permitted to flow to assure that the needle is well within the vein. A small amount of Ringer's solution from the gravity apparatus is then run into the vein, and the needle of the syringe containing the dye is inserted into the rubber tube leading from the gravity apparatus. The dye is slowly injected, at least ten minutes being required, as we have found that this is the best method for preventing immediate reactions. After all the dye is injected, the vein is washed out by the flow of 100 cc. of Ringer's solution. The patient is required to lie down for a half hour after the injection. Nothing is taken by mouth, and the first film is made four hours after the injection. The second one is made eight hours following the injection. After the eight-hour film, the usual diet is resumed, and twenty-four hours after the injection the last film is made. Should the dye still be retained at the twenty-fourth hour, additional films are made according to conditions. It is of the utmost importance that nothing be taken by mouth from the fourth to the eighth hour.

B. Oral. No special preparation of the patient is needed except preliminary films as noted above. Just before retiring the night before the examination is to be made, the patient is given keratin capsules containing a total of 5 gm. of tetraiodophenolphthalein sodium. The patient reports twelve hours later, at which time the first films are made. They are repeated four and eight hours later. After the second film normal diet is resumed.

If either method of cholecystography is used in conjunction with a gastrointestinal examination, the time of the dye administration must be such that the stomach is empty while the dye is being concentrated in the gallbladder.

INTERPRETATION OF PATHOLOGIC, IN-
TRAVENOUS CHOLECYSTOGRAMS

Nonvisualization of the gallbladder is the most frequent finding in intravenous cholecystography and is a very certain sign of a diseased organ, provided that the patient is, as pointed out above, neither jaundiced nor has an enlarged liver, and is not in the late months of pregnancy. Naturally, nonvisualization would occur in those rare instances of congenital absence of the gallbladder, a condition which we have never encountered. Nonvisualization will also occur in cases of occlusion of the cystic duct, and it also has occurred in cases of obstruction of the common duct, but we have made the test in this latter condition too infrequently to permit definite statements.

11. Alexander and Bond: Unpublished.

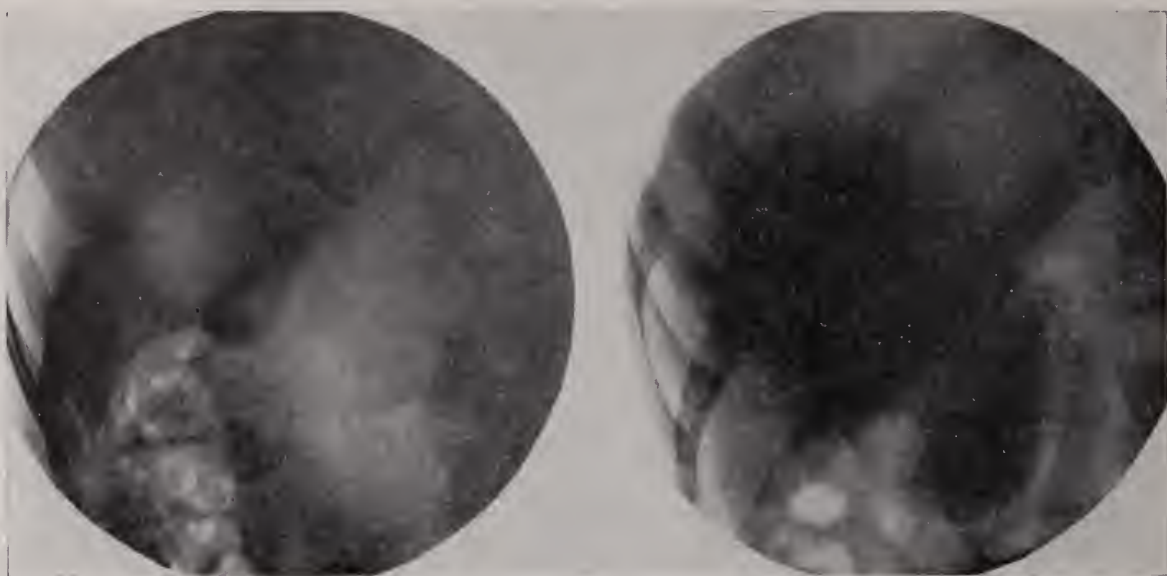


Fig. 2. Left: Normal intravenous cholecystogram. Right: Faint visualization of gallbladder. Both films taken at the eighth hour after intravenous injection of the dye.

Faint visualization is a frequent finding (fig. 2) and it is the most treacherous of all the signs of impaired gallbladder function. Its estimation is one which requires much experience, involves the matter of good or poor radiographic technic and the personal equation, and is the sign in which the greatest number of mistakes occurs. However, about 12 per cent of our cholecystectomies in which a pathologic gallbladder was found were based on the cholecystographic diagnosis of, "pathologic gallbladder because of faintness of shadow."

Delayed concentration. By this is meant nonvisualization at the fourth hour, faint visualization at the eighth hour, and the maximum density at the twenty-fourth or later hours. We believe it to be a very certain sign of diminished concentrating power of the mucosa of the gallbladder. The phenomenon is infrequently encountered.

Pericholecystitis as recorded in cholecystography means that the concentrating function of the gallbladder is more or less intact, else the deformity would not be visualized, and because of the bizarre locations and form of the organ, especially in the asthenic individual, the deformity must be proven to be persistent, and accompanying fixation must be demonstrated. Posing the patient in different positions and roentgenoscopy after the method of Levene of Boston will accomplish this.

Persistence of the gallbladder shadow beyond the twenty-fourth hour, in our experience, is most unusual. One case was observed in which the shadow persisted for eight days, following which examinations were desisted from. This patient was in a state of asthenia of unknown cause, and possibly he was one of the cases of dyskinesia of the

gallbladder. Some observers believe that the shadow of the gallbladder can persist because of continuous reabsorption of the dye from the intestines. However, in the normal cycle of digestion, the dye should be evacuated completely at the twenty-fourth hour or shortly thereafter. Cole¹² has recently written an article on persistence of the gallbladder shadow for many hours after the fat meal. He considers this significant on the one hand of minor, intermittent occlusion of a check-valve type of the cystic duct, but also that certain of them must be due to overconcentration of the bile of such degree that it is impossible for the organ to empty itself.

Cholelithiasis. Demonstration of stones is next in frequency and accuracy in determining gallbladder disease. If the stones contain calcium, as pointed out above, cholecystography is helpful only in the unusual calcifications, either as to their physical characteristics or location. Nonopaque or cholesterol stones are virtually undiscoverable save by cholecystography. Lacking a minimal calcium content, these stones offer great possibilities for error, and this is where the greatest percentage has arisen. The cause of such errors is due to their confusion with gas bubbles in the intestines, or the presence of filling defects from tumor or papilloma. In intravenous cholecystography, with nonvisualization or faint visualization following cholecystectomy, great numbers of cases of stones are found.

Excessive size of the gallbladder as seen in cholecystograms is only rarely encountered. Excessive size of itself, in the face of a dense gallbladder

12. Cole, W. H. and Rossiter, L. J.: Relationship of Lesions of Cystic Duct to Gallbladder Disease. Am. J. Digest. Dis., 5:586, Nov., 1938.

image, would not seem to be of consequence. However, our observations have been that in the few cases noted the shadow was also very faint.

Congenital deformities of the gallbladder indicate such excellent concentrating ability of the organ that in such cases it must be considered as free of disease.

Filling defects of the gallbladder other than those produced by nonopaque stones are rare. They may arise from external pressure or from tumor of the organ projecting into its lumen. They must persist after raying in such positions of the patient as will reveal constancy of location. The most frequent (and it is rare) filling defect is that produced by papilloma. In one case an indefinite filling defect was thought to be due to tumor. Cholecystectomy

the gallbladder, the possibility of confusion between actual filling defects and intestinal contents, usually gas, must be emphasized. These are most troublesome and dangerous. Their elimination can be greatly helped by the use of pitressin (10 pressor units) after the method of Collins¹³ (fig. 3). We strongly recommend it.

Interpretation of oral cholecystograms. In oral cholecystography, if the organ becomes visible promptly and it shows ability for progressive concentration of the bile with flexibility of the walls shown by changes in form and size, this is evidence of a normal gallbladder. And after the demonstration of stones and deformity, it is the most valuable use of the oral method. When stones are noted after the oral test, it is just as conclusive

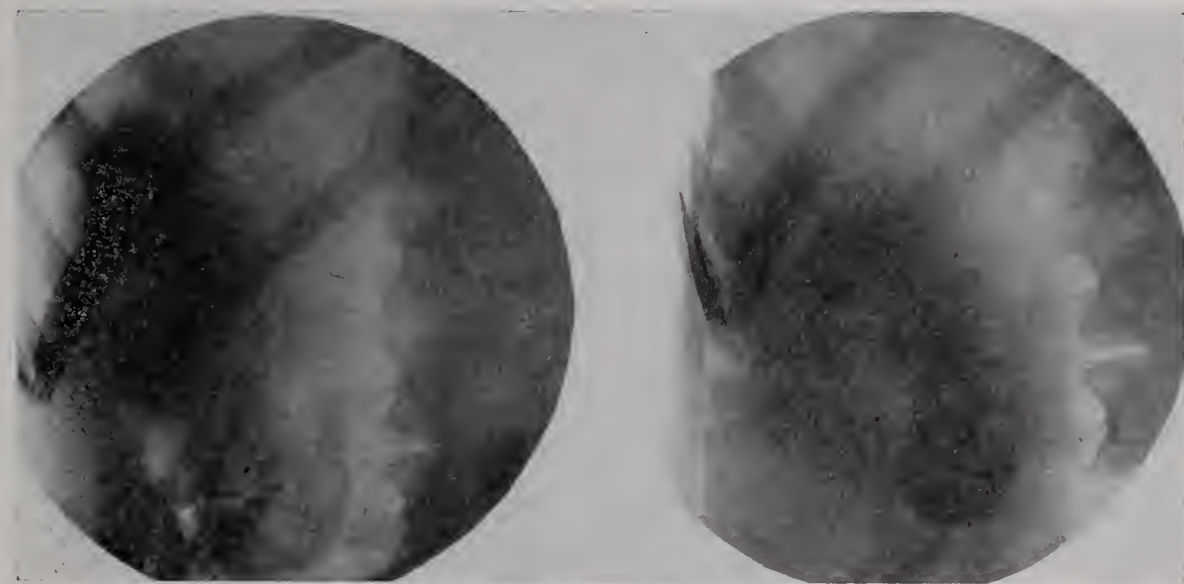


Fig. 3. Left: Intravenous cholecystogram. Confusing shadows from intestinal contents. Right: Twenty min-

utes after the injection of pitressin. Note gallstones.

revealed a normal gallbladder. On reexamination of the cholecystograms I was convinced that the pseudofilling defect was caused by pressure of intestinal contents.

Cancer of the gallbladder is not uncommon, and it has a poor outlook. Should cholecystograms reveal a constant filling defect obviously not due to stones, then the organ should be removed on the possibility of its being a malignant tumor.

There is every reason to believe that carcinoma of the gallbladder is so insidious that before there would be symptoms sufficient to require special investigation, those functions of the gallbladder which are visualized by cholecystography would have been lost. Of four such cases studied, the cholecystograms were not helpful except in one case of nonvisualization.

Before leaving the subject of filling defects of

evidence of their presence as is the case with the intravenous method of dye administration. Non-visualization, faint visualization and delayed concentration, in my opinion, cannot be relied on in estimating the condition of the gallbladder, for the reason that the quantity and rate of dye absorption from the alimentary tract are unknown. In the oral administration of the dye, filling defects, such as could be produced by intraluminal tumefactions, are conclusive evidence of a diseased organ. Persistence of the gallbladder shadow after oral administration of the dye has not been noted. When encountered, one may well think of slow intestinal absorption or reabsorption. Excessive size of the gallbladder in oral administration has not been encountered either. Congenital deformities, when

13. Collins, E. N. and Root, J. C.: Elimination of Confusing Gas Shadows During Cholecystography by Use of Pitressin. J. A. M. A., 107:32, July 4, 1936.

revealed by the oral method, are the same as is the case with intravenous dye administration.

Relative merits of intravenous and oral cholecystography are the subject of wide divergence of opinion. The oral method is undoubtedly simpler and less troublesome to the patient. There are far more oral cholecystographies done than there are intravenous, but from the literature it appears that the opinion among radiologists is equally divided as to the value of oral and intravenous administration. In spite of the brilliant work of protagonists of the oral method of dye administration, I am of the opinion that their results would have been yet more brilliant, had the intravenous method been employed.

In our clinic the question of whether or not operation should be done, in the presence of dubious findings of impaired gallbladder function with the oral method, is so important that we feel the intravenous method should be done at a later period. This, of course, is time-consuming and a hardship and expense for the patient. I would not be understood as saying that the decision for or against operation rests wholly on cholecystographic evidence. The guiding thought in the treatment of these patients is what is best for their own welfare. For the cases with surgical implications we feel that, since we are dealing with known quantities under known conditions, the intravenous method is superior to the oral.

Possibility of reactions with the intravenous method has militated against its employment. With intravenous cholecystography, provided the contraindications already pointed out are followed, reactions have been so minor in character and so infrequent in appearance that, though we keep an accurate record of all symptoms complained of, I did not believe it worthwhile to gather statistics for the purpose of this communication. It is worth repeating that slower administration of the dye and closer observation of blood pressure will greatly reduce if not eliminate reactions. In our system of intravenous administration of cholecystographic dyes, one physician, a member of the hospital staff, is in charge, and the decision whether or not to inject the dye is left in his hands and is determined by his estimate of the patient's ability to take the dye not only safely but in relative comfort.

Phlebitis practically never occurs with the present method of dye injection.

We have no statistics on reactions from the oral administration of the dye. I know of no example of syncope, urticaria or any other major untoward manifestation. Many of the patients complain bit-

terly of nausea, vomiting and diarrhea. The digestive upsets, however, must be frequent and troublesome in the hands of others because many writers advocate the use of paregoric or other sedatives to overcome them.

Radiographic technic. Very little need be said in regard to technic. It should be standardized and carried out as rapidly as possible. We employ a small cone and omit the large "scout" film. With due attention to the habitus of the patient, the gallbladder should be readily kept within a small field.

Patients are rayed in the prone position and are kept in the laboratory as the films are developed in the event that the first exposures are unsatisfactory or special poses are in order. We use intensifying screens but omit using the Potter-Bucky diaphragm. The use of pitressin has already been alluded to.

CONTRIBUTIONS TO CHOLECYSTOGRAPHY

The oral method of dye administration of Menees and Robinson, employment of phenoltetraiodophthalein of Graham and Cole, use of decholin by Jankelson and Altman, and use of pitressin according to Collins have already been alluded to.

Three other contributions should be discussed. These are the fat meal and the method of rapid cholecystography of Antonucci, and the "double dose" method of Stewart and Illick.

We have not employed the *fat meal* in cholecystography. The gallbladder fills by way of the cystic duct. It empties by the same route and by concentration through its mucosa. If it will fill, it should empty. Much importance is attributed to the change in size of the gallbladder image. The gallbladder image after administration of the fat meal would indicate resiliency or elasticity of the gallbladder walls. We have held the opinion that, if there should be a degree of pathologic change in the gallbladder which would result in the production of an inelastic wall, the concentrating function of the mucosa would have been lost. We have, therefore, decided that information to be gained from this source is not worth the time and effort that are required. It seems to us merely to be an additional complication to the procedure of cholecystography. Others, however, have demonstrated filling defects this way that otherwise would have been undiscovered.

Antonucci developed a method of *rapid cholecystography*, in which an intravenous injection of a 40 per cent solution of dextrose with 2 or 3 gm. of tetraiodophenolphthalein is used. Jung,¹⁴ working in our clinic, made a comparative study of normal cholecystography as contrasted with the An-

tonucci method both oral and intravenous, and his conclusions were that the gallbladder in normal individuals appears at an earlier hour than has been stated, that the rapidity of concentration with glucose is more apparent than real, that there is no particular advantage to the use of this method, and there is a material disadvantage in that he found a high incidence of phlebitis, enough so that it forbade its use.

Double dose method of Stewart and Illick. The double dose or reinforced method of cholecystography is widely accepted. Fundamentally this procedure consists in repeating the dose of dye given orally until the gallbladder does become visible. This principle diverges from the fundamental one in cholecystography in that it goes still further away from working with known values. In both intravenous and oral cholecystography we vary the dose slightly according to the weight of the patient. The small patient has a slightly decreased dose, and the very heavy patient may be given as much as $3\frac{1}{2}$ gm. of phenoltetraiodophthalein intravenously. We do not believe that the pathologicoanatomic findings from cholecystography, whatever the method used, are of more than minor importance. On the contrary, we are of the opinion that it is a functional test of the gallbladder and the matter of impairment of this function is in direct relationship to the symptoms and pathologic findings at operation. We believe, therefore, that the double dose method, instead of being an advantage, is a distinct disadvantage in cholecystography.

PATHOLOGIC GALLBLADDER

Though not entirely satisfactory, the statistical is the only method for estimating the worth of a diagnostic procedure. In the case of the biliary tract the worth of cholecystography will be measured by pathologic findings. Before proceeding with a statistical analysis, there are certain points about the pathologic gallbladder that should be discussed.

It is extremely difficult to state just what is a pathologic gallbladder. Undoubtedly the presence of gallstones constitutes a pathologic state, whether they may be guilty of producing symptoms or not. Postmortem evidence indicates that a great number of gallstone carriers are free from symptoms of the gallbladder. Cholecystitis is probably produced by cholelithiasis, and if the stones contain calcium, I am of the opinion that there is or has been present an infectious process in the gallbladder, in the course of which the calcium was deposited.

Undoubtedly the presence of cholesterol stones is a late manifestation of cholesterosis of the gall-

bladder, and the condition, cholesterosis, is probably a metabolic disorder. It seems to me that the presence of a cholesterol stone acts as a foreign body and induces bacterial invasion with calcium precipitation. I have had one case, in which the nonopaque cholesterol stones were found with cholecystography, and a year or so later there was nonvisualization of the gallbladder, and a ring of calcium had been deposited on the periphery of the gallstones.

In addition to these sources of cholecystitis, it is highly probable that there is an inflammation of the gallbladder of chemical origin. This might arise through pathologic alterations of the quality of the bile through aberrance of the concentrating function and emptying capacity of the organ. It is impossible to say with any degree of accuracy in the microscopic examination whether there is a bacterial, metabolic or chemical inflammation of the organ. This state of affairs is further complicated by wide divergence of opinion, varying from observer to observer, as to just what does constitute the microscopic evidence of an inflamed gallbladder. Certain of the phenomena of inflammation can be present in any of these types of disease, if they can be so designated. Cholesterosis of the gallbladder, the "strawberry gallbladder," is frequently found with some lessening of the concentrating function of the organ which is at the same time stoneless. On the other hand, in our series of cases there was an example of a stone in the gallbladder without any sign of inflammation or cholesterosis at microscopic examination of the mucosa and wall of the organ.

Certain cases, which have had the cholecystographic diagnosis of pathologic gallbladder and cholecystectomy, have persisted with the same symptoms which existed before the operation was done. The probabilities are that symptoms arise from long standing disease of the gallbladder, in which the ducts and perhaps the liver itself and surrounding structures and their walls have been so long the seat of disorder that symptoms arising from them will continue in spite of the removal of the diseased gallbladder. Womack¹⁵ has demonstrated the existence of neuromata in the stump of an amputated cystic duct and also in the walls of the diseased gallbladders. It is undoubtedly the case that these neuromata produce a certain proportion of the pain which is found in chronic gallbladder disease.

STATISTICAL ANALYSIS

Since the discovery of cholecystography in 1924, there have been 10,816 such examinations in our

14. Jung, T. S. and Moore, S.: Study of Rapid Cholecystography. *Am. J. Roentgenol.*, 33:194-204, Feb., 1935.

	INTRAVENOUS			ORAL			PER CENT CORRECT FOR TOTAL
	Total No.	Errors	Per Cent Correct	Total No.	Errors	Per Cent Correct	
Stones.....	119	3	97.48	43*	0	100	98.14
Non Visualization.....	247	1	99.60	29	1	96.55	99.27
Faint Visualization.....	160	5	96.88	7	0	100	97
Pericholecystitis (deformity).....	33	0	100	0	0	100	100
Delayed.....	6	0	100	0	0	100	100
Persistent.....	3	0	100	0	0	100	100
Delayed and Persistent.....	6	0	100	0	0	100	100
Enlarged Gallbladder.....	2	0	100	0	0	100	100
Mottled.....	40	2	95	5	0	100	95.55

* 2 pericholecystitis

Table I.

laboratory, 5,719 intravenous and 5,097 oral. I wished to analyze the cholecystectomies over a fifteen-year period, but was unsuccessful because of changes being installed in the hospital record room. It was possible to analyze the results in only 895 consecutive cholecystectomies done between January, 1924, and December, 1937.

In 134 instances for one reason or another cholecystography was omitted. The usual reason for the omission was an obvious diagnosis or acute illness.

Preliminary films uncovered gallstones in 17 cases, and they were found at operation in every instance. In 645 intravenous cases there were 21 errors, and in 99 oral cases there were 4 errors. In the grand total of 895 cholecystectomies, the pre-operative diagnosis was confirmed by pathologic examination in 97.21 per cent of the cases.

Many writers have claimed that a pathologic gallbladder may manifest normal cholecystographic behavior, usually in cholesterosis. Our material certainly indicates that, if true, this is of rare occurrence. It is inevitable that a certain percentage of error must exist in this as in any other functional test.

	Total No.	Errors	Per Cent Correct
Intravenous cases.....	645	21	96.74
Oral cases.....	99	4	94.94
All cholecystograms.....	744	25	96.64
Open films considered.....	17	0	100.00
Diagnosed without films.....	134	0	100.00
Total Cases Considered.....	895	25	97.21

Table 2.

The weakness of the statistics that have been presented lies in the fact that cholecystectomy and subsequent pathologic examination of the gallbladder were not done on all the cases of cholecystography (tables 1 and 2).

Of the 982 cholecystectomies analyzed in relationship to cholecystography there were 222 males and 675 females. The oldest patient was 77 years old, and the youngest patients were two fourteen year old girls. The maximum occurrence of disease was in the sixth decade for males and in the fifth for females. These figures do not correspond with

those assembled by others, there being three times as many females as males. Cholecystectomy has been done in young children, and we do not hesitate to carry out intravenous cholecystography in them.

In the total number of 982 cholecystectomies there was a 3.6 per cent mortality rate. This is too high a rate for simple, uncomplicated cholecystitis and cholelithiasis.

FAILURE OF CIRCULATION*

MECHANISM OF VARIOUS TYPES WITH DIAGRAMMATIC ILLUSTRATIONS

I. C. BRILL, M.D.

PORTLAND, ORE.

The mechanism of normal circulation has been known for more than three hundred years. However, the various processes which disturb this mechanism are not so readily understood even today. The general symptoms of circulatory insufficiency (congestion, dyspnea, cyanosis, weak and rapid pulse) are usually quite apparent, but the nature of the disturbance responsible for their production often remains obscure. Obviously, a clear conception of the essential pathologic physiology is necessary for an intelligent undertaking of a successful therapeutic regime. It is proposed in this communication to describe and illustrate diagrammatically the mechanism underlying the various types of circulatory failure.

PERIPHERAL CIRCULATORY FAILURE

The *mechanism* of this form of circulatory failure is a *diminution in the circulatory blood volume*, resulting either from hemorrhage (hemorrhagic shock) or from extravasation of plasma into the tissues and a pooling of concentrated blood in dilated peripheral capillaries (toxic shock, traumatic shock). The resultant pathologic physiology is an insufficient return of blood to the large veins with consequent lowering of venous pressure, inadequate cardiac filling and diminished cardiac output. Anatomically, this circulatory disturbance is characterized by *collapsed veins* and diminution in the size of the heart (fig. 1).

15. Womack, N. A.: Pathologic Changes in Chronic Cholecystitis and Production of Symptoms. Surgery, 4: 847-855, Dec., 1838.

*Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Gearhart, Ore., Sept. 6-9, 1939.

Etiology. Many different conditions, in addition to hemorrhage, may produce this disorder. Among the more important are severe acute infections, extensive burns, severe surgical or accidental trauma, and sudden embolic or thrombotic occlusions of large vascular trunks.

The clinical picture resulting from circulatory disturbance is more or less the same, regardless of the disease which causes it. The skin is moist and cold and presents a cadaveric or grayish cyanosis. The pulse is rapid and feeble and the veins are less than normally filled. In addition, there is the general appearance of shock or collapse, characterized by extreme weakness, drowsiness or even unconsciousness.

As may be inferred from the above discussion, in this type of circulatory failure the heart itself is not at fault. Unless the seat of antecedent disease, it is apt to be smaller rather than larger than normal

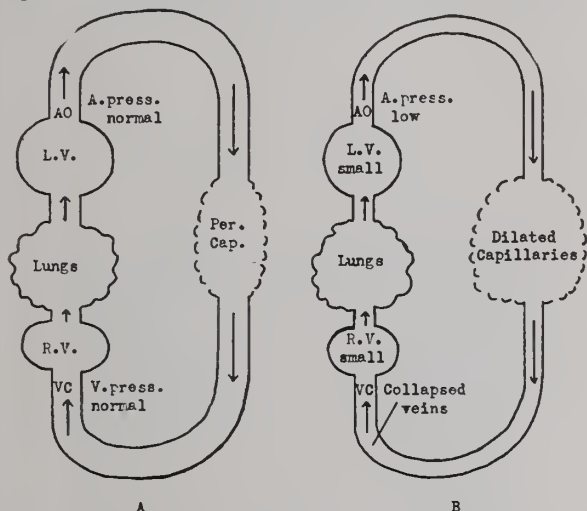


Fig. 1. Schematic drawing showing the mechanism of peripheral circulatory failure.

A. Normal circulation.
B. Peripheral circulatory failure due to a pooling and concentration of blood in a widely dilated capillary bed resulting in collapsed veins and in a drop of systemic blood pressure. The ventricles are shown to be diminished in size.

A., aorta; L.V., left ventricle; R.V., right ventricle; Per. Cap., peripheral capillaries; A. press., systemic arterial pressure; V. press., systemic venous pressure; V.C., vena cava.

(fig. 1). Since digitalis is indicated chiefly in large hearts and since no true myocardial insufficiency exists, it is obvious that in the management of this condition digitalis has no place; through its action in diminishing cardiac output this drug may be even harmful.

CONGESTIVE HEART FAILURE

The term "congestive heart failure," or its synonym "myocardial insufficiency," implies disease (or weakness) and failure of the heart muscle. It is characterized by a state of *passive congestion* which may involve either one or both circuits. If the myocardial weakness is confined only to the

left ventricle, the passive congestion is limited to the lungs or the pulmonary circuit (fig. 2B). If the right ventricle alone is involved the passive congestion is limited to the systemic circuit (fig. 3B), resulting in distention of the systemic veins with peripheral edema and a greater or lesser amount of transudation into the serous cavities. If both sides of the heart are affected, both pulmonary and systemic engorgement result (fig. 2C).

As we shall see later, not all forms of passive congestion are due to congestive heart failure. Marked pulmonary congestion may arise from mechanical obstruction, such as a tight mitral stenosis without any weakness of the left ventricle. Likewise, extensive systemic venous engorgement with marked ascites may result from mechanical constriction such as occurs in constrictive pericarditis with no essential weakness of the heart muscle itself. This distinction is an important one as it

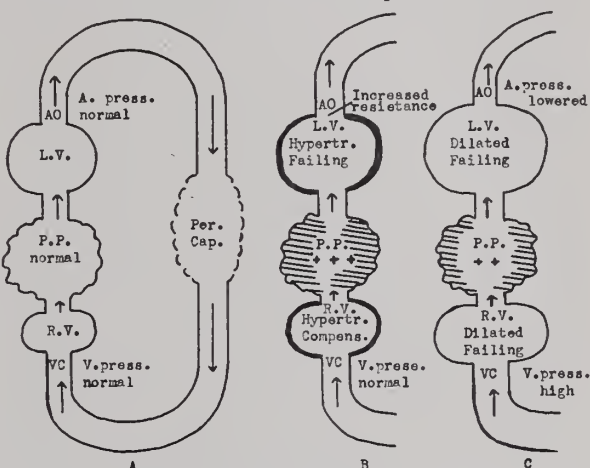


Fig. 2. Schematic drawing showing mechanism of isolated left ventricular failure (B) and mechanism of secondary failure of the right ventricle or secondary cor pulmonale (C).

A. Normal circulation.
B. Strain and beginning failure of left ventricle. The left ventricle is strained as a result of increased resistance at the aortic orifice (hypertensive or aortic disease). The hypertrophied but failing ventricle is unable adequately to drain the lungs; this results in pulmonary engorgement (P.P.+++). The increased intrapulmonary pressure (P.P.++) in turn strains the right ventricle. However, at this early stage the hypertrophied right ventricle is able to compensate and, since it successfully overcomes the increased intrapulmonary resistance, the systemic venous pressure remains normal and no systemic venous engorgement results. The clinical result is dyspnea without peripheral edema.

C. Finally the right ventricle dilates and fails; the systemic venous pressure becomes greatly increased (resulting in peripheral edema noted clinically), and the aortic pressure is significantly lowered. There is also a moderate lowering in the intrapulmonary pressure which sometimes results in a slight improvement in the dyspnea.

affects materially both prognosis and treatment.

As indicated above, congestive heart failure may involve the entire heart or only one of its sides; that is, either the right or the left ventricle alone may fail with the function of the other ventricle remaining relatively adequate.

LEFT VENTRICULAR FAILURE

Due to the great frequency of hypertension,

coronary artery disease and aortic valvular disease, all of which tend to strain the left side of the heart, failure of the left ventricle with or without secondary failure of the right ventricle is the most common form of congestive heart failure (fig. 2).

In the early stages of left ventricular failure the congestive phenomena are limited to the pulmonary circuit (fig. 2B) resulting in *dyspnea without peripheral edema*, the characteristic manifestation of isolated left ventricular failure. Sooner or later, due to the prolonged strain imposed upon the right ventricle by the increasing pulmonary congestion, the right side of the heart also fails and systemic congestive phenomena appear, resulting in the common picture of general or *bilateral* heart failure (fig. 2C).

PRIMARY RIGHT VENTRICULAR FAILURE (PRIMARY COR PULMONALE)

Isolated (or primary) failure of the right ventricle is less frequent than that of the left, and as its name implies, results from an obstruction of the pulmonary circulation independently of failure of the left ventricle (fig. 3). Its most common causes are mitral stenosis and primary pulmonary disease (extensive fibrosis or emphysema). In its early stages the right ventricle hypertrophies and, being successful in overcoming the pulmonary obstruction (fig. 3A), may give rise to no symptoms. In the absence of symptoms its detection may be possible through discovery of an enlarged pulmonary artery and conus by physical or roentgenologic examination (fig. 4). Sooner or later, however, the right ventricle dilates and fails, resulting in the appearance of systemic congestive phenomena (fig. 3B). It should be pointed out that the condition responsible for primary cor pulmonale is generally a progressive and irreversible obstructive process of the pulmonary circulation, and consequently comparatively little may be expected from any form of therapy.

SIMULTANEOUS FAILURE OF BOTH VENTRICLES

As pointed out above, in failure of the left ventricle, due to the resultant pulmonary congestion the right ventricle is subjected to continuous strain and sooner or later also fails (fig. 2C). This constitutes the commonest form of late generalized (or bilateral) congestive heart failure. Less often, due to the effects of etiologic factors acting upon both ventricles simultaneously, the heart as a whole may dilate and fail with congestive phenomena relating to both the lesser (pulmonary) and greater (systemic) circuits appearing at the same time. This

picture is seen comparatively frequently in rheumatic valvular disease (mitral and aortic), occasionally in combined hypertensive and rheumatic (mitral) disease, and more rarely in conditions affecting the nutrition of the heart as a whole (beri-beri, severe anemia, myxedema, acute infectious myocarditis, thyrotoxicosis). The mechanism of the clinical manifestations is the same as that illustrated in fig. 2C except that the dilatation and failure of both ventricles occur approximately at the same time.

CONSTRICTIVE PERICARDITIS

Constrictive pericarditis is characterized clinically by modified congestive phenomena, consisting of marked ascites, mild dependent edema, and greatly increased systemic venous pressure. These circulatory disturbances are entirely of mechanical origin; the myocardium proper is generally free from disease, and cardiac enlargement is usually absent. Functionally, however, the heart is the seat of pro-

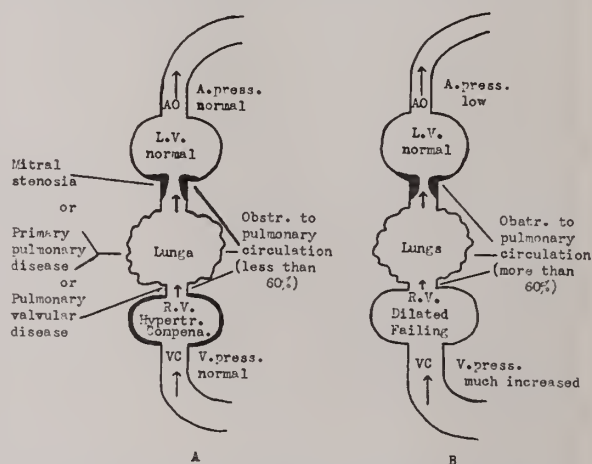


Fig. 3. Schematic drawing showing the mechanism of production of primary failure of the right ventricle (primary cor pulmonale) in stages of compensation (A) and failure (B).

A. Strain of right ventricle due to obstruction of pulmonary vascular bed (less than 60 per cent). Hypertrophied right ventricle is shown in stage of compensation. The pulmonary resistance is successfully overcome and adequate ventricular output is maintained with normal systemic arterial and venous pressures. At this stage there may be no symptoms except roentgenographic evidence of dilatation of the pulmonary artery and conus (see fig. 4).

B. Stage of decompensation. Pulmonary vascular narrowing exceeds 60 per cent, a degree of obstruction in excess of that for which the average right ventricle is able to compensate. The right ventricle is shown dilated with diminished ventricular output, low aortic pressure and increased systemic venous pressure.

found derangement. Encased within a thick, unyielding, often calcified, pericardial sac, the heart cannot undergo adequate relaxation during diastole and diastolic filling is thus greatly hindered. This results in marked reduction in cardiac output and greatly increased venous pressure.

These physiologic disturbances are often further intensified by the development of constricting bands around the mouths of the great veins. The

exact mechanism of the preponderance of the ascites over the dependent edema is not altogether clear,** but this preponderance together with the markedly elevated systemic venous pressure is one of the diagnostic features of this condition. Other diagnostic signs are the small size and relative immobility of the heart as demonstrated by roentgenoscopic, kymographic and electrocardiographic examinations.

The presence of increased venous pressure in the arm as well as in the leg differentiates this condition from cirrhosis of the liver. In the latter venous engorgement is confined to regions below the diaphragm.

It should be borne in mind that in this type of "congestive" failure, due to the absence of cardiac enlargement and true myocardial insufficiency, digitalis is not only useless but, on account of its tendency to diminish cardiac output, may prove even harmful.

MIXED AND LESS WELL DEFINED TYPES

Peripheral and *congestive* types of failure, not being mutually exclusive, occasionally occur together. This combined or *mixed* form is the more

the onset, there are usually also present severe shock and symptoms of peripheral circulatory failure. Thus, congestive phenomena, such as pulmonary edema, may occur together with manifestations of peripheral circulatory failure, such as pallor, sweating and more or less collapsed peripheral veins.

Cardiac collapse, due to pulmonary embolism (acute cor pulmonale) or to acute myocarditis, closely resembles that due to acute coronary thrombosis and is apt to be associated with both congestive and peripheral circulatory manifestations. To a lesser extent this is also true of *cardiac syncope* whether of neurogenic (carotid sinus or vasovagal) or of myogenic (Adams-Stokes) origin. In cardiac collapse the extent of the congestive phenomena will depend upon the length of time the heart remains impaired and the severity of the original insult which caused the cardiac embarrassment. The shock phenomena will depend upon the suddenness as well as on the severity of the insult. In cardiac syncope the duration of the cardiac embarrassment is generally too short for congestive phenomena to develop in any significant degree.

"FORWARD" AND "BACKWARD" FAILURE

The various types of circulatory failure described above are sometimes classified into *forward* and *backward* failure. The latter is synonymous with *congestive heart failure*. It indicates that "the symptoms develop in the organs which feed blood toward the failing chamber of the heart" and denotes passive engorgement behind or in back of the failing chamber (figs. 2 and 3).

Forward failure refers to the clinical syndrome produced by an inadequate blood supply to the tissues which may result either from failure of the peripheral circulatory apparatus (fig. 1) or from *acute weakness* of the heart itself. In the latter instance the term "forward" failure implies that the "symptoms develop in the organs which receive blood from the failing chamber" (Harrison¹). Forward failure may therefore be subdivided into (1) that due to failure of the peripheral vascular apparatus, which constitutes the *pure* type of forward failure, and (2) that due to acute weakness of the heart itself. The latter subdivision is more often a mixed type of circulatory failure, presenting both congestive and peripheral circulatory disturbances, and includes the various forms of acute cardiac collapse and cardiac syncope described in the latter part of this paper.



Fig. 4. Roentgenogram showing cardiac silhouette characteristic of cor pulmonale. Bulge in the region of the cardiac waist ("filling" of waist) is due to dilatation of pulmonary artery and conus.

or less usual type of failure seen in acute coronary occlusion. With massive injury to the myocardium, failure of the left ventricle and often also of the right may develop with great rapidity. At the same time, on account of the severity and suddenness of

**This preponderance may arise from the possibility that the constriction may involve the hepatic veins at their caval entrances more extensively than the vena cava proper, thus resulting in a relatively greater degree of portal than caval obstruction.

1. Harrison, T. R.: Failure of the Circulation, The Williams & Wilkins Company, Baltimore, 1939.

REVIEW OF VITAMIN K AND ROLE OF PHTHIOL IN EXERTING ITS ANTI-HEMORRHAGIC ACTIVITY*

SILVIO VUKOV, M.D.

SEATTLE, WASH.

Since the dawn of operative surgery, particularly biliary system surgery, the surgeon has feared the ever-present menace of postoperative bleeding. From the development of blood coagulation theory we are told that many factors individually or collectively are responsible for this hemorrhagic tendency. One of these in the process of blood coagulation is a proenzyme, prothrombin, and it is with this factor and its relationship to the newly discovered vitamin K that this discussion mainly deals.

The history of vitamin K begins with experiments of Dam and Schonheyder at the Biological Institute of the University of Copenhagen in the year 1929. These investigators reported that the deficiency factor responsible for hemorrhage in chicks which were kept on special diet was a fat-soluble substance occurring in hog liver, hemp seed, cereals and vegetables. This factor was shown to be different in nature from the other fat-soluble vitamins (A, D, E) and was given the name koagulations vitamin, and later simply vitamin K.

The bleeding tendency in the chicks was found by Schonheyder to be associated with decrease in the concentration of prothrombin in the plasma, and he was also able to show that, on administration of the nonsaponifiable portion of hog liver fat, alfalfa or other substances containing the hypothetical vitamin K, the bleeding ceased and concentration of prothrombin rose to normal amounts.

Subsequent studies by Dam, Holst and Holbrook of California (and by Almquist and Stockstad, also of California) showed that certain green vegetables such as alfalfa, kale, spinach and putrefied fish-meals were rich sources of this new vitamin. A little later these same research workers were able to prepare fat-soluble concentrates of these substances with proportional increase in potency. In 1937 Almquist¹ published "Isolation of a crystalline colorless material with vitamin K potency."

Further studies disclosed evidence that vitamin K can be produced by bacterial action and it is generally present in the lower portion of the intestines, even where the animal is maintained on a vitamin K-free diet. Bacteria responsible for this

formation are *sarcina lutea* and *B. subtilis*, commonly found in the intestinal flora.²

Coincidental with the above scientific animal experimentation, clinicians attempted to correlate human disease and the role of vitamin K. Quick, Brinkhouse, Bancroft and Greeves³ investigated the causes of hemorrhages in cases with biliary fistula, obstructive jaundice and in postoperative obstructive jaundice bleeding. It was found that in the obstructive jaundice, where no bile reaches the intestinal tract and in the cases with biliary fistula, feeding of vitamin K had no effect in controlling the hemorrhage. Furthermore, studies of blood prothrombin, particularly by Quick, disclosed that with jaundice especially (and in the cases with hemorrhage) there was a considerable drop in prothrombin level of the blood.⁴

Quick went even further. He suggested and showed that it was not the lack of ionic calcium rendered neutral by the bile in the blood but a distinct drop in the prothrombin level of the plasma which was responsible for the hemorrhagic tendency in the jaundiced cases. Also, with vitamin K being available at this time for clinical investigation, it was found that bile salts were necessary with vitamin K to control the hemorrhage by increasing the prothrombin level of the blood and decreasing the coagulation time in these prolonged prothrombin time instances. It was furthermore concluded that, since bile aids in the solution, emulsification and absorption of fats, similarly vitamin K, being a fat-soluble substance, would be aided in its passage through the intestinal mucosa. In obstructive jaundice and biliary fistula, where no bile reaches the intestinal canal, no absorption of vitamin K takes place, hence deficiency.

From that time until the present oral administration of vitamin K in the form of extracts of alfalfa and oil-soluble concentrates, klotogen, etc., with bile salts have been and in the near future probably will continue to be employed to control hemorrhages in obstructive jaundice cases.⁵ However, with chemical study of vitamin K continually being carried on, chemists began tearing down and isolating the active chemical structure of this principle. This having been accomplished by Almquist,

2. Almquist, H. J., Pentler, C. F. and Mecchi, E.: Synthesis of Antihemorrhagic Vitamin by Bacteria. *Proc. Soc. Exper. Biol. & Med.*, 38:336-338, April, 1938.

3. Quick, A. J., Stanley, Brown, M. and Bancroft, F. W.: Study of Coagulation Defect in Hemophilia and Jaundice. *Am. J. M. Sc.*, 190:501-511, Oct., 1935.

4. Scanlon, G. H. et al.: Plasma Prothrombin and Bleeding Tendency. *J. A. M. A.*, 112:1898-1901, May 13, 1939.

5. Butt, H. R., Snell, A. M. and Osterberg, A. E.: Preoperative and Postoperative Administration of vitamin K to Patients Having Jaundice. *J. A. M. A.*, 113:383-389, July 29, 1939.

*From Medical Division, King County Hospital.

^{*}Read before a King County Hospital Staff Conference, Seattle, Wash., Dec. 13, 1939.

1. Almquist, H. J.: Crystalline Vitamin K. *Nature*, July 3, 1937.

Klose and Finsser, new clinical fields and forms of administration were opened and attempted. It is with this phase of vitamin K history that this discourse is chiefly concerned.

Before going further, let us examine the theory of blood coagulation. Nearly all theories which have been proposed agree with the following general principles of the three phases of the coagulation of the blood: (1) reaction phase, chiefly chemical, (2) coagulation phase, gel formation, (3) contraction phase, mechanical.

The chemical phase is composed of two simultaneously occurring chemical reactions which incorporate the essential ideas of Bordet, Morawitz, Howell and others. These are illustrated by the following:

I. Prothrombin + Activating Substance

(Thromboplastin) + Calcium = Thrombin.

II. Fibrinogen (soluble) + Thrombin = Fibrin (insoluble).

In the first, or chiefly chemical phase, the blood, platelets play a part⁶. Initially present as discrete mobile bodies, they are gradually drawn together as by invisible threads until they are clumps which gradually swell and then suddenly disappear in the plasma. Quickly following this agglutination and dissolution of platelets, a deposit of fibrin in the form of fine needles begins. Following this, the cellular elements of the blood are entangled in the meshes of fibrin, thus forming a clot.

Chemically, to have the above illustrated reaction take place, the following is necessary: a proenzyme prothrombin, the precursor of thrombin, which is the chief actor. Until very recently it was thought that leukocytes and platelets were the chief sources of prothrombin and that ionic calcium was necessary for the reaction in which thrombin was formed. However, Quick^{3,7} contends that these are fallacies. He believes it is mainly the organically combined calcium which is directly essential for the formation of thrombin. This shatters the former view, that lack of ionized calcium was responsible in the obstructive jaundice diathesis.

Upon the interaction of the above coagulation factors was based the old test of prothrombin time determination by Howell⁸. In the old Howell method the activating substance, thromboplastin, was supplied by the disruption of platelets which was

already described. Since this process is slow, correspondingly the so-called prothrombin time, which in reality was the clotting time of calcified plasma, was slow, running into minutes. Moreover, since no one knew how much thromboplastin was contained in these platelets to influence the clotting per se and the prothrombin being the unknown factor, on theoretical grounds the test would be inaccurate because we would be measuring two unknowns. Nevertheless, as Quick says, the test is clinically valuable since, except in cases of hemophilia where platelets are deficient in the thromboplastic materials, one can expect the thromboplastic activity in this test to be constant in various determinations. Hence, we would be determining the prothrombin influence on the clotting of the blood.

Quick⁹ later eliminated this variable factor, at the same time speeding the clot formation by supplying the excess of readily available thromboplastin. The Quick test is more scientific since it measures only one variable—the prothrombin.

Until very recently, the alfalfa and putrefied fish meal concentrates were the only sources of the vitamin available to the clinic. In certain internal disorders and postoperative cases and in certain emergencies, where the oral route is impossible or too slow, some other manner of administration becomes a necessity. With this in mind, various chemists began a search for a pure form of vitamin K which could be administered parenterally.

In March, 1939, Almquist and Klose¹⁰ reported the formation of vitamin K choleic acid. Soon the same workers made an even greater discovery, when they found in June that pure synthetic phthiocol, which is 2 methyl, 3 hydroxy, 1, 4 naphthaquinone, was the simplest member of the homologous series of antihemorrhagic substances (fig. 1). Their work shows that basically the vitamin K series are naphtha-quinones and the antihemorrhagic activity lies between methyl and hydroxy-naphtha-quinones. Shortly after this it was found that the constitutional form of vitamin K is 2 methyl, 3 phythyl, 1,4 naphtha-quinone. It may be interesting to note that 2 methyl, 1,4 naphthaquinone, a very simple chemical substance, possesses as much antihemorrhagic activity as a more complex vitamin K compound.

Having isolated phthiocol, it was first tried on

6. Wiggers, C. J.: *Physiology in Health and Disease*. Second Edition, p. 294. Lea & Febiger, Philadelphia, 1937.

7. Wangenstein, O. H.: *Hemorrhagic Diathesis of Obstructive Jaundice and its Treatment*. Ann. Surg., 88:845-865, Nov., 1928.

8. Kolmer, J. A. and Boerner, F.: *Approved Laboratory Technic*. Second Edition, p. 101. D. Appleton-Century Co., New York, 1938.

9. Quick, A. J.: On Various Properties of Thromboplastin. Am. J. Physiol., 114:282-296, Jan., 1936.

10. Almquist, H. J. and Klose, A. A.: J. Am. Chem. Soc., Sept., 1939.

11. Butt, H. R., Snell, A. M. and Osterberg, A. E.: Phthiocol; Its Therapeutic Effect in Treatment of Hypoprothrombinemia Associated with Jaundice. Proc. Staff Meet. Mayo Clin., 14:497-502, Aug. 9, 1939.

animals for toxicity. Soon after that, in October, Butt, Snell and Osterberg¹¹ first used it clinically intravenously in various cases of obstructive jaundice and obtained excellent results. In their studies they did not try to establish the speed of activity of vitamin K. In our series, which is about to be presented, we tried to determine the speed of vitamin K action. Shortly after the publication of the Mayo Clinic results there were reports that the activity of phthiocol is due to the presence of 2 methyl, 1,4 naphtha-quinone as an impurity, whereas pure phthiocol, free from impurities, has a very low activity per se. Because of this discrepancy, we have obtained a pure form of phthiocol from the Galen Company of Berkeley, California, and our series, therefore, acts as a check on the Mayo report of two months ago.

In our investigations we used solutions of phthiocol made by suspension of 50 mgm. of crystalline phthiocol in 5 cc. of water and 2.3 cc. of N/10 NaOH solution. The crystals are stirred till solution is complete, then the red fluid is filtered and the filtrate heated in a boiling water bath for thirty minutes to insure sterility. We further dilute this solution to about 40 cc. with sterile saline, then inject it intravenously at the usual rate of injection.

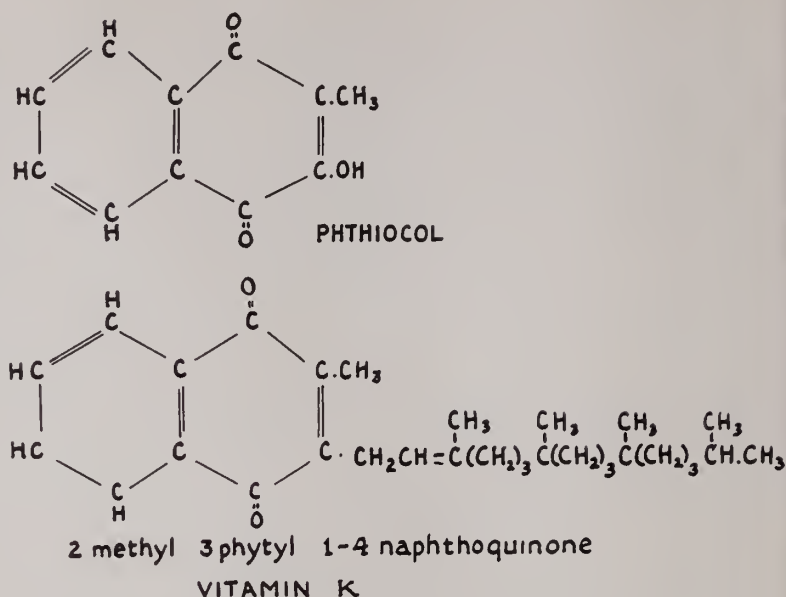


Fig. 1. Formula for synthetical phthiocol.

and 4 this was done within three hours of phthiocol administration.

We desired to gauge the speed of vitamin K activity. In case 1 the hypoprothrombinemia was due to dietary insufficiency secondary to duodenal obstruction by carcinoma of the stomach. Here there was a distinct drop following the administration of a second dose of phthiocol. The following three cases were of obstructive jaundice which showed a rapid and a rather remarkable drop in the prothrombin time. Cases 5, 6 and 7 had a definite liver damage to account for their hypoprothrombinemia and yet had sufficient liver tissue left to

No.	Diagnosis	Minutes	Intravenous 50 mg. phthiocol (vitamin K)									
			Days—									
1	Obstructive carcinoma of the stomach.....	11	1	2	3	4	5	6	7	8	9	10
2	Obstructive jaundice	9	10			8		4		10		12.5
3	Obstructive jaundice	12	8					6		8		
4	Obstructive jaundice	11.5	5 drops in 3 hours									
5	Toxic hepatitis	16	6 drops in 3 hours									
6	Toxemia of pregnancy or chronic nephritis....	12	9									
7	Alcoholic cirrhosis pellagra.....	13.5	6		9.5	12						
8	Splenic anemia	15	5	5	5	5	5	7				
			11	10		12.5	14	14				

Fig. 2. Howell method. Prothrombin time in minutes.

We are presenting a series of twelve cases which showed a definite hypoprothrombinemia. In figure 2 there are eight such cases. In these the prothrombin time was measured by Howell's method, the only method available to the laboratory at that time (September, 1939). The essentials of this method were described earlier and its interpretations were discussed. In all cases except 3 and 4 the second prothrombin determinations were performed twenty-four hours following intravenous administration of 50 mgm. of phthiocol. In cases 3

respond to the phthiocol activity. Case 8 is of splenic anemia. Its response to phthiocol before and after splenectomy will be discussed in a later publication. (In Howell's method the prothrombin time is measured in minutes and ten minutes represents the upper extreme end of normal. We have run several normal determinations and nearly all of these were around five to six minutes.)

Figure 3 presents a series of five cases, the last

12. Magath, T. B.: Prothrombin Determination in Blood. *Am. J. Clin. Path.*, 9, Sept., 1939.

No.	Diagnosis	Sec.	Intravenous 50 mg. pthiocol (Vit. K)		Coag. time in minutes	
			hrs. 1½	hrs. 24	Before Vit. K	After Vit. K
1.	Obstructive jaundice.....	38	30.5	31		
2.	Obstructive jaundice.....	29	24	29	5	2.5
3.	Obstructive jaundice.....	40	35.5	36		
4.	Toxemia of pregnancy.....	30	22	24	6	4
5.	Splenic anemia.....	34.5	33	33	11	6.5
	Normal prothrombin time.....	26	26	26		

Fig. 3. Quick-Magath method. Prothrombin time in seconds.

two being presented in the previous figure 2. Here the prothrombin time was determined by the Magath method¹², a modification of the original Quick method. Here the time is measured in seconds. In Magath's method the blood is collected in a test tube, in which 0.5 cc. of tenth molar solution of sodium oxalate has been placed. Four and one-half centimeters of blood are added and the solution is mixed. The blood is allowed to sediment half an hour or is centrifuged for three minutes at low speed. Place 0.1 cc. of the plasma in a tube 13 by 100 mm. and add 0.1 cc. of thromboplastin, mixing gently to avoid bubbles. The mixture is now warmed in a water bath which is kept at 37.50° C. The temperature of the bath is important and should not vary over one degree. Keeping the tube in the bath, quickly introduce 0.1 cc. of fortieth-molar calcium chloride and agitate the tube quickly. At the instant that calcium chloride is added, a stop-watch should be started and the exact time recorded for the formation of a firm clot (semi-solid). In order to determine the second at which the clot is developed, the tube should be tipped every few seconds.

The thromboplastin is prepared by aqueous solution of rabbit brain. By this method the usual normal human plasma clots in 18 to 22 seconds, but can vary higher. Quick has shown that, when the prothrombin time is as long as 30 seconds, the blood contains about 25 per cent of normal prothrombin. In this method each pathologic determination is accompanied by a known normal.

In the second series our chief objects were to prove the value of the old Howell method of prothrombin time determination, compare these with the new Quick method and to establish the speed of pthiocol activity. In this series the prothrombin time was determined one and one-half hours after the administration of 50 mgm. of pthiocol. The last two columns show the coagulation time in minutes before and after the pthiocol.

From the tables presented it can be seen that now we have a simple water-soluble substance easily lent to solution, sterilization and intravenous

administration. We can observe the remarkable speed of activity of pthiocol in exerting its anti-hemorrhagic properties. In the brief time of one and one-half hours there was an unmistakable drop in the clotting time. Furthermore, we have noticed that unless the vitamin K is resupplied its influence vanishes in a matter of a few days.

Experiments on animals and correlation on human cases have shown that liver is necessary for vitamin K to exert its influence on the level of prothrombin in the blood. In cases of extirpation of liver and in acute yellow atrophy, where there is a deficiency of liver tissue, there is no response to vitamin K therapy, i.e., no elevation of the blood prothrombin. From this it can be speculated that the reaction by which the vitamin K causes increase in the prothrombin level takes place in the liver cells. What reaction takes place no one is prepared to say. Since this change is so rapid, taking place in a matter of minutes, one can further speculate that perhaps quinone structure may in some way be linked to the complex protein which together would form prothrombin. No one has broken down prothrombin into its components, so the mystery must persist.

CLINICAL USES OF VITAMIN K

Vitamin K is indicated in any disease which leads to the absence of or the partial loss of the bile of normal composition in the intestines, in cases of improper digestion of fat, and in those possessing insufficient amount of normal intestinal mucosa. It is also necessary in cases of physiologically abnormal liver. All of the above instances lead to prothrombin deficiency.

Specifically the clinical conditions which alter the metabolism of vitamin K and prothrombin are: (1) sprue, (2) intestinal polyposis, (3) chronic ulcerative colitis, (4) intestinal fistula, (5) gastrocolic fistula, (6) postoperative gastric retention, (7) intestinal obstruction. In cases where there is deficiency of bile reaching intestinal mucosa as (8) obstructive jaundice and (9) biliary fistula.

(10) In normal children vitamin K avitaminosis develops the first day and disappears in six days. This causes a hypoprothrombinemia which is responsible for the common slight hemorrhagic diathesis of the newborn. (11) Vitamin K is used in icterus gravis, anemia of the newborn and in congenital dropsy. (12) General avitaminosis.

SUMMARY

1. Pthiocol has been administered intravenously in cases with hypoprothrombinemia. Definite rise in prothrombin level, measured both by the Howell

and Quick methods, has been obtained in nearly all of the cases.

2. Response to the intravenous phthiocol has been rapid, taking place in less than one and one-half hours. The reaction by which prothrombin is increased after the phthiocol administration takes place within the liver cell. Use of bile for vitamin K absorption from the gastrointestinal tract is simply mechanical in that it aids in emulsification, solution and absorption of fats; hence vitamin K. Intravenously no such substances are necessary.

3. Because of the speed by which the prothrombin level is increased by phthiocol it is here suggested that perhaps quinone structure is in some way associated with the prothrombin molecule.

4. We have not observed any toxic or untoward reactions whatsoever in any form following the administration of rather concentrated doses of phthiocol.

5. We believe the toxicity of phthiocol is minimal and that it can be administered intravenously with safety. Its value is particularly applicable in cases of emergency as in postoperative bleeding, in cases where oral route is impossible or impracticable. Its preparation to the intravenous phthiocol to a minimal dose at a comparatively lower cost is a distinctive advantage over an oral route**.

**Indebtedness is acknowledged to the King County laboratory staff and its director, Dr. Clyde Jensen, and to Dr. C. H. Hofrichter of the visiting staff for his cooperation and advice.

SPONTANEOUS RUPTURE OF HEART*

REPORT OF NINE CASES

GEORGE A. C. SNYDER, M.D.

SPOKANE, WASH.

Medical literature contains reports of approximately one thousand instances of spontaneous cardiorrhhexis, and indicates that this lesion is to be found in about 0.16 of one per cent of necropsies. It is estimated¹ that spontaneous rupture is found in from two to six per cent of myocardial infarcts seen at autopsy. In about 80 per cent of all cases the rupture lies within an area of old or recent myocardial infarction caused by obstructive disease of the coronary arteries.^{2,3} Other reported causes include vaguely described myocardial degenerative

processes, some of which are probably due to existent but undiscovered coronary occlusion; gummatous or tuberculous myocarditis; metastatic or primary cardiac neoplasms, septic myocardial abscesses; parasitic cysts and rupture of coronary vessels themselves.

Among factors predisposing to rupture are white race, hypertension and diabetes. About 71.5 per cent of ruptures occur in individuals over the age of sixty years. Although Brill⁴ states that coronary disease is about four times commoner in men, males having cardiac rupture predominate only in the ratio of three to two. It would seem that women with occlusive coronary disease are more prone to have cardiac rupture.

About 80 per cent of the ruptures are left ventricular, involving the anterior wall three times more frequently than the posterior one, because the anterior interventricular branch of the left coronary artery is the one most frequently occluded.

The sudden death which is usual in these cases cannot be explained entirely by loss of circulating blood or by the tamponade effect of massive intrapericardial bleeding which is practically always present, for death follows rare interventricular septal ruptures just as suddenly as it does mural ones. Probably acute ventricular fibrillation, ventricular standstill or other lethal physiologic disturbances act as they do in those rapidly fatal cases of coronary occlusion, having no demonstrable changes in the myocardium.

Nothing peculiar in the usual clinical picture of coronary occlusion and myocardial infarction gives warning of impending cardiorrhhexis. Pain often precedes rupture and in some cases may simulate that caused by surgical lesions within the abdomen, as in a series reported by Salzmann⁵. In about three-quarters of the cases, the victim has been unexpectedly found dead, often shortly after appearing well or no worse than usual. Clinical observations of actually dying patients have been rare. Death usually occurs after the third day following occlusion and often before the sixteenth day. In some cases there has been no known preceding illness or pain, and this is especially true in cases occurring among the insane. Rupture is more likely to occur in the presence of hypertension and in those who are physically active. The ever present danger of cardiorrhhexis should cause the physician to make

*From the Department of Pathology, Western State Hospital, Ft. Steilacoom, Wash.

1. Criterion Committee of the New York Heart Association: Nomenclature and Criteria for Diagnosis of Diseases of the Heart. J. J. Little and Ives Co., New York, 1939.

2. Davenport, A. B.: Spontaneous Heart Rupture, Statistical Summary. Am. J. M. Sc., 176:62-65, July, 1928.

3. Benson, R. L., Hunter, W. C. and Manlove, C. H.: Spontaneous Rupture of Heart. Report of 40 cases in Portland, Oregon. Am. J. Path., 9:295-328, May, 1933.

4. Brill, I. C.: Coronary Artery Disease and Angina Pectoris: Present Status with Review of Some of Recent Literature. Ann. Int. Med., 12:365-387, Sept., 1938.

5. Salzmann, H. A.: Spontaneous Rupture of Heart Simulating Surgical Abdominal Disease. Am. J. M. Sc., 188:347-354, Sept., 1934.

every effort to prevent physical activity until the weakened heart muscle can undergo at least some cicatricial repair and support.

Reports of Peterson⁶ and of others seem to indicate by their higher case-necropsy ratios that spontaneous rhexis occurs more frequently in the insane. It is well known to pathologists who work in hospitals for the psychopathic that necropsies often disclose the unsuspected presence of advanced lesions which should have been incapacitating or excruciatingly painful. Many mental hospital patients seem utterly insensitive or inattentive to dolorogenic stimuli, or react to them with bizarre expressions which are recognized as delusions. Such patients do not cooperate in giving histories, in permitting good physical examinations or in following treatment. Since there is an ever increasing proportion of senescent individuals with hypertensive or other cardiovascular diseases in the populations of mental hospitals, as well as in the general population, it seems probable that more numerous examples of spontaneous cardiorrhesis will be discovered in the future.

The following nine cases of spontaneous heart rupture were found among 490 adequate records of the 533 necropsies performed by the Department of Pathology, Western State Hospital, Ft. Steilacoom, Washington, from June 29, 1935, to December 16, 1939, during which time there were approximately 1072 deaths.

CASE REPORTS

Case 1. A white man, 67 years old, who had been hospitalized three years because of a psychosis with cerebral arteriosclerosis, suffered paroxysmal nausea and vomiting for five days. Seemingly improved, he was allowed to get up on February 9, 1937, but died suddenly on retiring that night.

The pericardial sac measured 15 cm. transversely, and contained about 500 cc. of fluid and clotted blood. A pin-head sized rent was found in the posterior wall of the left ventricle at the center, an area of recent hemorrhagic infarction with abundant exudative inflammation. The heart weighed 252 gm., and in it were small scattered foci of old fibrosis. The coronary arteries showed marked arteriosclerotic stenosis and the right one was occluded by a thrombus.

Case 2. A white man, 72 years old, hospitalized five years because of a paranoid psychosis, apparently in good health, had retired after doing his usual day's work. He was found dead in the ward hall at 1:00 a.m. on April 11, 1937.

The pericardial sac, which contained about 500 cc. of fluid and clotted blood, measured 15 cm. in diameter. A fresh myocardial infarct 2 cm. in diameter involved the apex of the left ventricle and there was a rupture 1 to 2 mm. in diameter on its anterior wall. The anterior interventricular branch of the left coronary artery was occluded 2 cm. below its origin by a recently formed thrombus. Bronchopneumonia was also present.

Case 3. A white man, 74 years old, who had been hos-

pitalized 15 months because of a psychosis with cerebral arteriosclerosis, whose blood pressure was once 142/82, was found dead in bed at 2:00 a.m. on August 6, 1937.

The pericardial sac was 14 cm. in diameter. In it was about 1000 cc. of fluid and clotted blood. The heart weighed 392 gm. On the lateral margin of the left ventricle, 5 cm. from the apex, was a large area of recent infarction with extensive acute inflammation, surrounding a rupture of the ventricular wall. The anterior interventricular branch of the left coronary artery was closed by a thrombus.

Case 4. A white man, who had a stroke in 1930 and another in 1934 producing hemiplegia, was hospitalized fifteen months because of a psychosis with cerebral arteriosclerosis. He was found dead, at the age of 65 years, shortly after arising on the morning of September 2, 1937.

The pericardial sac measured 18 cm. across and contained about 500 cc. of clotted blood. The heart, which weighed 489 gm, had a linear tear 3 cm. long on the posterior surface of the left ventricle 4 cm. above the apex, through a 5 cm. area of fresh infarction with exudative inflammation involving the posterior surface of both ventricles. Scattered throughout the myocardium were small fibrotic patches. Both coronary arteries showed narrowing by arteriosclerosis and the right one was occluded 5 cm. from its origin by an organizing thrombus.

Case 5. An emaciated white man for three days had acute mental disturbances following the onset of agonizing precordial pain which was partially relieved by nitrites. He was transported for a considerable distance to the hospital on March 14, 1938, where he became cyanotic, and died eight hours after admission.

The pericardial sac was 18 cm. in diameter and held about 1000 cc. of clotted and fluid blood. The dilated and hypertrophied heart weighed 450 gm. On the lateral surface of the left ventricle was a jagged opening 2.5 cm. long, centered in an area of recent infarction measuring 3 by 5 cm. Both coronary arteries showed arteriosclerotic stenosis, and the left one was occluded by a fresh thrombus.

Case 6. An obese white woman, having a blood pressure of 176/98 and a history of having had "heart attacks" for about a year, had been hospitalized almost four years because of a psychosis with cerebral arteriosclerosis. She suffered repeated anginal attacks and died suddenly, at the age of 69 years, on July 24, 1938.

In the pericardial sac was about 200 cc. of blood. The heart weighed 500 gm. In the anterior wall of the greatly hypertrophied left ventricle midway between apex and base was a rupture. About this there was an old healed infarct softened by recent necrosis. Both coronary arteries were sclerotic, narrowed and partially calcified, and occluding the anterior interventricular branch of the left one was a thrombus which was beginning to organize.

Case 7. An obese hirsute white woman, hospitalized a little over eight years because of a psychosis with mental deficiency, was found to have a blood pressure of 145/90. On the day of her sudden death at the age of 72 years, her blood pressure was 190/170 and a systolic apical cardiac murmur was heard. For two days she had complained of abdominal pain.

In the pericardial sac, which had a diameter of 14 cm., was 145 gm. of clotted blood and about 200 cc. of fluid blood. The hypertrophied heart weighed 390 gm. Fresh infarction had softened the lower half of the anterior wall of the left ventricle and of the interventricular septum. Near the septum the myocardium was only 5 mm. thick; elsewhere it was 10 mm. thick. In the thinned area was a rupture 1 mm. in diameter. Covering the infarcted muscle and the rupture was a mural thrombus. Both coronary arteries were sclerotic. The anterior interventricular branch of the left one was greatly narrowed, and occluded for a

6. Petersen, M. C.: Spontaneous Rupture of Heart. Report of Three Cases. *Minnesota Med.*, 17:256, May, 1934.

distance of 2 mm. by a recently formed and unorganized thrombus situated 15 mm. from its origin.

Case 8. An obese white man, long having motor aphasia and right hemiplegia, was hospitalized a little over seven years because of a psychosis with organic brain disease (cerebral hemorrhage). He had many transient convulsive seizures with cyanosis, dyspnea and irregular pulse. On February 11, 1939, he was found to have edema of the legs, and quickly became dyspneic and cyanotic. Two days later he was found dead, at an age believed to be about 68 years.

The pericardial sac measured 17.5 cm. in diameter and in it was 200 cc. of fluid blood and a clot weighing 476 gm. The greatly hypertrophied heart weighed 570 gm. Posteriorly both ventricles were extensively involved by recent infarction and in the upper posterior part of the interventricular septum the muscle showed recent infarction and some early fibrosis. On the posterior surface of the left ventricle 1.5 cm. to the left of the interventricular sulcus and 3 cm. from the atrioventricular sulcus was a ragged laceration 2.2 cm. long. A thrombus covered a distinctly separate 12 by 8 mm. rupture of the posterior part of the muscular interventricular septum, permitting communication between the ventricles. There was hemorrhagic dissection from this rupture forward into the septal muscle. The coronary arteries had an unusual distribution, and both were greatly narrowed by arteriosclerotic changes. The right one was occluded for a distance of 20 mm., beginning 15 mm. from its origin, by a thrombus which was beginning to soften. In the detailed report of this case, which is being published elsewhere, reasons are advanced for the belief that this case is unique in having two separate ruptures through the same infarct, the septal one possibly preceding the mural one about two days.

Case 9. A white woman, previously an inmate, was again hospitalized for two years because of a manic depressive psychosis. During this time her blood pressure varied from 135/70 to 140/78 and a systolic murmur was heard over the mitral area. On October 23, 1939, she felt ill and would not eat, but denied having any pain. On the following morning she collapsed and died suddenly while dressing, at the age of 69 years.

The pericardial sac contained about 100 cc. of fluid blood and a clot weighing 275 gm. The heart weighed 245 gm. In the recently infarcted anterior wall of the left ventricle was a tear 12 mm. long and 3 mm. wide located 1 mm. from the interventricular sulcus and 6 cm. from the atrioventricular sulcus. There was necrosis of the anterior inferior portion of the interventricular septum and the involved heart wall was covered by a mural thrombus. The right coronary artery, although sclerotic, was not appreciably narrowed. The left was calcified and narrowed, and the lumen of its anterior interventricular branch was blocked by a newly formed thrombus for a distance of 5 mm. from the bifurcation of the main trunk.

SUMMARY

A brief report of nine examples of spontaneous rupture of the heart, one apparently of unique character, is made.

This lesion occurs predominantly in individuals over the age of sixty years who have myocardial infarction following diseases of the coronary arteries.

Physicians should exert every effort to insure physical rest for patients having coronary occlusion in order to minimize the danger of spontaneous cardiorrhesis.

MECKEL'S DIVERTICULUM AND LITRE'S HERNIA*

REPORT OF CASE

R. E. RINGO, M.D.

AND

M. R. CHARLTON, M.D.

TILLAMOOK, ORE.

Meckel's diverticulum remains more or less of a surgical curiosity, even though this structure is present in from one to two per cent of humans. It is a rudiment of the vitelline or omphalomesenteric duct of embryonic life. The duct usually atrophies and disappears entirely during fetal life. Complete obliteration, however, may fail at any part of the duct. Rarely the whole duct remains patent and a fecal discharge persists at the umbilicus. More frequently the proximal portion only fails to disappear and constitutes what is known as Meckel's diverticulum. It varies considerably in size and sometimes, as remnant of the remainder of the duct, is attached by a fibrous cord to the umbilicus.

The one or two per cent, mentioned as the frequency of its occurrence, is the anatomic figure¹. Strange to say, surgical statistics do not concur and many active surgeons may never encounter a Meckel's diverticulum over a period of years.

Balfour² found that it had been recognized fifteen times in 10,600 abdominal operations at the Mayo Clinic. Goodman³ found it observed twenty-three times in 9,559 laparotomies at New York Post Graduate Medical School and Hospital. In five of the cases reviewed by Balfour and seven of Goodman's series, the diverticulum was partly or wholly responsible for the symptoms. In the remaining cases it was encountered only incidentally.

Undoubtedly the diverticulum is overlooked in the course of a routine laparotomy more often than it is observed. Indeed, unless it is searched for, discovering its presence is quite accidental. This largely accounts for the discrepancy between anatomic and surgical statistics. Perhaps another reason for this difference is the fact that Meckel's diverticulum does not seem to share the tendency to inflammatory and degenerative changes common to other vestigial organs. While diverticulitis does occur and constitutes a very real hazard and is even a greater menace than an inflamed appendix, by far the greater number of surgical conditions for which

*From the surgical service of Charlton Hospital.

*Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Gearhart, Ore., Sept. 6-9, 1939.

1. Quain, Cunningham and others quoted by F. E. Bunts. *Ohio State M. Assn.*, May 19, 1904.

2. Balfour, D.: *Meckel's Diverticulum*; Report of Fifteen Cases. *J. Minn. M. Assn.*, 31:110-112, March, 1911.

3. Goodman, B. A.: *Meckel's Diverticulum*; Its Incidence and Significance in Routine Operations on Abdomen. *Arch. Surg.*, 36:144-162, Jan., 1938.

it is responsible are of a mechanical, rather than inflammatory nature. Obstructions of various types are most common, with hernia next in frequency.

Thirty years ago Porter⁴ reviewed one hundred and eighty-four cases of surgical conditions of Meckel's diverticulum reported up to that time. Only seventeen were diverticulitis. Wellington⁵ reviewed three hundred and twenty-six cases, of which fifty were primarily inflammatory in nature. In this series there were two hundred and twelve of obstruction, intussusception and volvulus, and twenty-seven hernia. There were also twenty-one cases in which the diverticulum was patent at the umbilicus.

Occasionally Meckel's diverticulum becomes involved in a hernia, sometimes with other abdominal contents, more rarely alone. When it is the sole occupant of a hernial sac, it constitutes the so-called Littre's hernia. Littre observed two cases as far back as 1700⁶. Hernia of Meckel's diverticulum is most frequently inguinal, next umbilical, and still less frequently femoral⁷.

Sweet,⁸ in reporting a case of femoral hernia, in which Meckel's diverticulum was incarcerated, collected from the literature, between 1700 and 1929, reports of fourteen such cases. Hence it is a rare condition and a case worthy of report.

REPORT OF CASE

J. A., male, farmer, single, age 36, was admitted to the hospital at noon August 12, 1938, with what was obviously an incarcerated femoral hernia on the right side. Two or three months previously, while lifting, he felt something give and later noticed a lump in the groin. This disappeared and caused no further trouble until the night before admission, when it again appeared and could not be pushed back.

At operation the inguinal approach was used and the neck of the sac exposed at the femoral ring. Only after free incision of the medial border of the ring was it possible to reduce the hernia, and the contents, consisting of a segment of small intestine three inches long with no mesentery and with a blind end, presented itself to our startled eyes. The distal 2 cm. was gangrenous. On further investigation, this process was found to arise from the convex surface of the ileum. No attempt was made to locate it more exactly, neither were exact measurements taken, but it was approximately the same diameter as the intestine from which it arose and was four inches in length. There was no constriction or line of demarcation between the two. In fact, the orifice was funnel shaped. There was no trace of mesentery and no adhesions.

The diverticulum was resected, the sac delivered from the canal and amputated; the femoral ring was obliterated with chromic cat gut and the wound closed. Convalescence was uneventful and the patient was discharged on the eighteenth postoperative day.

4. Porter, M. F.: Abdominal Crises Caused by Meckel's Diverticulum. *J. A.M.A.*, 45:883-890, Sept. 23, 1905.

5. Wellington, J. R.: Meckel's Diverticulum; Report of Four Cases. *Surg. Gynec. & Obst.*, 16:74-78, Jan., 1913.

6. Da Costa, J. C.: *Modern Surgery*, 9th edition, p. 1162. W. B. Saunders, Philadelphia, 1928.

7. Gray, H. K.: Meckel's Diverticulum in Hernia; Report of Case. *Minnesota Med.*, 17:68-70, Feb., 1934.

8. Sweet, R. H.: Incarceration of Meckel's Diverticulum in Femoral Hernia; Report of Case with Review of Literature. *New England J. Med.*, 111:997-998, May 22, 1930.

ABDOMINAL INJURIES DUE TO IMPALEMENT OF RECTUM

REPORT OF TWO CASES

JOHN A. DUNCAN, M.D.

AND

R. D. FORBES, M.D.

SEATTLE, WASH.

Perforation of the rectum by impalement is not common. Reports in the literature have usually been of isolated cases. Habbegger, in reviewing 179 such cases, found that 30 per cent were in farmers and in 26 per cent of all cases the penetrating object was a pitchfork or hayhook. The mortality of the entire series was 26.8 per cent and, where the peritoneal cavity had been penetrated, it was 78.5 per cent. Herewith are presented reports of two cases, treated by the authors and falling in the latter group.

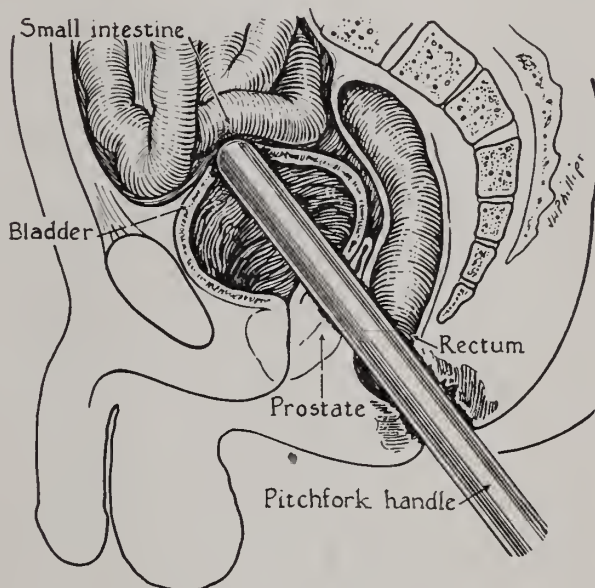


Fig. 1. Case 1. Illustrates route traversed by pitchfork handle. Diameter of handle was one inch. It entered for a distance of ten to twelve inches.

Case 1. At 3 p. m., July 30, 1939, a 17-year-old Indian boy fell from a hayloft and landed astride the upright end of the wooden handle of a pitchfork which was stuck in the ground. The handle, which entered for a distance of between ten and twelve inches, was pulled out by the boy. A few minutes later he passed large blood clots from his rectum and red urine by urethra.

The patient was admitted to King County hospital, Seattle, two hours after the accident. He was complaining of generalized abdominal pain and was in moderate shock with blood pressure 90/60, pulse 120, temperature 98°. The r.b.c. was 4,960,000 with Hgb. 86 per cent, w.b.c. 10,600 with 68 polys, 23 lymphocytes and 9 per cent monocytes. Physical examination of head and neck, chest and extremities was negative. The abdomen was diffusely boardlike and tender. Blood was oozing from the anal orifice and from a laceration of the anus in the midline posteriorly. Upon examining the rectum digitally a laceration of the anterior wall was felt at a level just above the prostate.

Laparotomy was carried out immediately through a

suprapubic midline incision and under nitrous-oxide-ether anesthetic. There was a large amount of thin, blood tinged peritoneal fluid present. A superficial tear in the mesentery of the terminal ileum about 8 cm. in length was exposed and repaired with fine plain catgut. A 4 cm. laceration in top of the bladder was then exposed and retractors inserted, exposing the interior of the bladder and a 3 cm. jagged laceration in the trigone, communicating with the lumen of the rectum (fig. 1). The rectal and bladder walls were closed individually with chromic catgut, closure offering considerable difficulty owing to its situation deep in the pelvis. The rent in the top of bladder was closed about an extraperitoneal suprapubic catheter and the sheaths closed with interrupted No. 1 chromic catgut, silk for the skin. A tube was inserted into the rectum.

The postoperative course was uncomplicated until the tenth day, when the cystostomy tube stopped draining and urine began to pass rectally. Proctoscopic examination was made, showing a partial breakdown of the rectal repair. Because of the reformation of this rectovesicle opening the necessity of a colostomy seemed likely but five days later this opening again became closed and remained so. On the twenty-fifth day after operation the suprapubic tube was removed and a week later the patient was discharged from the hospital. At that time the suprapubic wound was granulating, all urine was passing by urethra, the urinalysis was essentially negative and the rectal wound was firmly healed. When last seen, three months after operation, he was in good health and without complaint.

Case 2. At 3:30 p. m., February 4, 1933, a 13-year-old girl overturned while sledding on a steep hill. She was thrown forcibly onto the long sharp stump of a willow bush which traversed the anal canal, rectovaginal septum, vagina, right fornix and entered the abdomen. When withdrawn the portion of the stick involved in the penetration measured nine inches.

Four hours later, when seen in a hospital at Everett, the patient was developing signs of shock with blood pressure 95/63, pulse 120, temperature 99° and signs of a progressive diffuse peritonitis. The entire abdomen was rigid and tender. No anal laceration was noted but blood was oozing from the orifice, and the laceration of vagina and right fornix could be palpated vaginally.

Under general anesthesia the abdomen was opened through a suprapubic midline incision. Several coils of small intestine in the lower part of the abdomen were distended and inflamed. Fragments of formed fecal matter were found in the pouch of Douglas and on the right broad ligament. A large jagged rent was found and repaired on the anterior surface of the latter. The mesentery of the terminal ileum was badly lacerated, impairing the vascular supply to about eight inches of bowel (fig. 2). This segment was resected and an end-to-end anastomosis was performed. A Penrose drain was led from the pelvis and the wound closed in layers with chromic gut and silk for the skin. A tube was inserted into the rectum.

Convalescence was complicated by peritonitis with associated ileus for the first five days. Then distention decreased, the patient became afebrile and drainage from the abdominal wound decreased. The drain was removed on the eleventh day, the patient was ambulatory on the fourteenth and home on the seventeenth. When examined six months later there was no rectal or vaginal stenosis and the septum was healed. Since her injury the patient married and has borne a child.

DISCUSSION

The frequency of injuries such as these is favored by the funnel-like arrangement of the thigh surfaces, ischial tuberosities and soft parts around the anus, the anal canal being at the apex. Hence,

penetrating objects are readily directed toward this apex canal to the pelvic outlet, the anterior rectal wall being the most frequent site of perforation, usually two to four inches from the anus. The posterior wall of the bladder is frequently injured.

When a patient with history of rectal impalement is first seen, the presence or absence of rectal perforation must be immediately determined. History as to the length and direction of the penetration is important. Did he pass blood-stained feces or urine from the rectum, or bloody urine or fecal material from the rectum since the accident? Gentle digital and proctoscopic examination may reveal a laceration of the rectal wall. If the patient has not voided, he should be catheterized and the urine examined for blood. If there is doubt as to bladder injury, cystoscopy may be indicated.

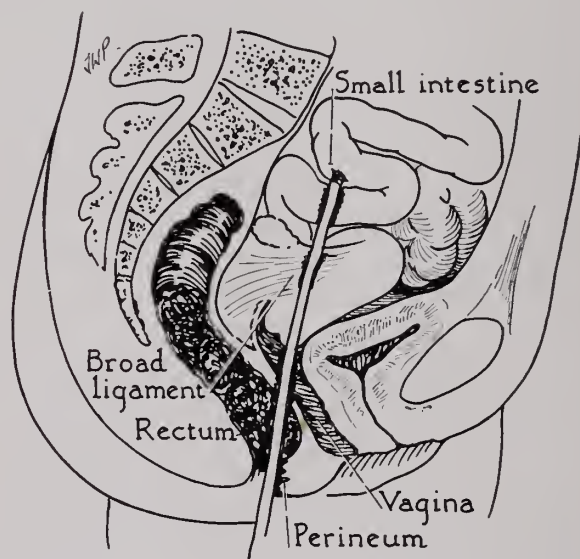


Fig. 2. Case 2. Shows route of willow stick through rectovaginal septum, right fornix and broad ligament, injuring ileal mesentery and bowel.

If the rectum is not perforated, conservative treatment may be safely employed. If, on the other hand, a definite opening in the rectum is found, and the injury be within a few hours after the accident, immediate laparotomy should be carried out. Abdominal signs may be slow in developing and not reliable early. The bladder and peritoneal viscera should be explored carefully and repair carried out. Laceration of the bladder should be sutured and suprapubic or transurethral drainage established, depending on the degree of injury. Any foreign material in the pelvis, such as clothing or fecal matter, is carefully removed and the area cleansed, mechanical cleansing with sodium ricinoleate 1 to 1000 being of value. If the rent in the rectum is evident, it should be closed with two rows

of intestinal suture and reinforced with an omental graft. If it is extensive, if adequate repair cannot be effected, or if there is a large opening into the bladder, a temporary colostomy should be made. Intestinal, mesenteric and other injuries should be treated as necessary. Drainage of the pelvis is instituted according to the extent of the damage and contamination. A rectal tube should be inserted after operation. Prophylactic administration of antitoxin for tetanus and gas gangrene is advisable.

ARSENICAL POISONING*

JOSEPH BEEMAN, M.D.

PORTLAND, ORE.

Arsenic and its compounds have been a favorite homicidal agent since the time of the Borgias. In the latter part of the nineteenth century attention was concentrated on this problem, with the result that in the last twenty years arsenical poisonings were relatively rare. As a matter of fact, in 1933 arsenical poisoning was only vaguely referred to by the lecturers at the University of Oregon Medical School.

The following table summarizes twenty-two cases which have come to the attention of this department since 1937:

	1937	1938	1939
Accidental	0	0	1
Suicidal	0	3	0
Homicidal	2	1	2
Criminal, nonfatal	0	1	12

The apparent increased incidence in 1939 may be due to application of routine diagnostic aids, or it may represent an actual increase in the criminal use of arsenical compounds. It should be noted that the cases referred to above represent only those which have been called to the attention of law enforcement agencies; the number of undiagnosed poisonings cannot even be surmised. It is the purpose of this paper to call attention of clinicians to the problem, and to suggest methods of diagnosis which can be applied in the office or hospital laboratory. The number of reported cases is directly proportional to the use of such methods and to the awareness of clinicians as to the constant possibility of arsenical poisoning.

Of the many compounds of arsenic which occur in nature and industry, we are chiefly concerned with arsenic trioxide (white arsenic) and sodium arsenate. Lead arsenate, used extensively in the orchard industries, does not give the symptoms of acute arsenical poisoning; rather, the syndromes are of lead poisoning with chronic arsenical poison-

ing. Arsenic trioxide is purchased as such to be used as a rat poison or as an ingredient in home mixed insecticide sprays. A particularly objectionable form of arsenic trioxide is "Rough on Rats," a proprietary preparation consisting of arsenic trioxide mixed with enough charcoal to color the mixture grey. This may be purchased without restriction in most communities, and forms a very real hazard to public welfare. Sodium arsenate is used largely in insecticides and in the tie dipping industries. Other arsenical compounds, such as fly poisons (metallic arsenic), ant pastes (sodium arsenite in syrup) and Fowler's solution (potassium arsenite), all present easily available sources of the poison.

The usual fatal dose of arsenic trioxide is given as two to four grains. A teaspoonful of the powder weighs about ten grams; hence, one-fiftieth of a teaspoonful may be considered a potent dose. The size and age of the individual, the presence of food in the stomach, and the amount lost by vomiting and diarrhea may influence these figures. Arsenic trioxide can be absorbed through the skin, mucous membranes and by the pulmonary route, but is usually given orally, as it is tasteless, odorless and, when mixed with common foodstuffs, is virtually undetectable to the victim.

In the acute form of arsenical poisoning gastric distress with vomiting usually begins within one hour after ingestion; abdominal pain may be present. Diarrhea appears, usually within a few hours; this progresses to severe purging, and later the stools may have a rice water character; bloody stools are the exception, but may occur. The patient usually dies in twenty-four to ninety-six hours from dehydration, exhaustion and profound toxemia. In a rarer form of the acute poisoning the gastric symptoms are masked by the delirium and coma which is present. *Because arsenical poisoning so closely simulates the epidemic forms of bacterial gastroenteritis, the poison is often administered when such a condition is prevalent in the community. In three instances that have come to our attention, arsenic was criminally given while the victims were suffering from a bacterial enteritis.*

The chronic form of arsenical poisoning is characterized by thickening of the skin with desquamation, serositis with puffy watery eyes and some effusion of fluid into the body cavities, renal damage with albuminuria, liver damage with minor degrees of jaundice, and neuritis, psychotic symptoms and possible loss of nerve function. It is insidious and is diagnosed by chemical analyses

*From University of Oregon Medical School, Crime Detection Laboratory Department of State Police, and Department of Pathology, Portland, Ore.

of body fluids and suspicion as to the cause of the ailment. Death is uneventful, and in many cases no suspicion is aroused until several members of the same family have died under similar circumstances.

The presence of arsenic in urine, stool, stomach contents and vomitus is easily determined by means of the Reinsch test, which is both simple and sensitive:

Reagents:** Hydrochloric acid, ferrous sulphate, bright copper wire.

Directions: In a beaker boil 50 cc. of distilled water, 10 cc. of concentrated hydrochloric acid, a crystal of ferrous sulphate the size of a pea and 2 cm. of copper wire for twenty minutes. If no tarnishing of the wire takes place, the reagents can be considered arsenic free. This preliminary control step is necessary in order to avoid a false positive result.

Urine is made faintly alkaline with sodium hydroxide and evaporated to approximately one-fourth volume. Stool, stomach content or minced tissues may be used directly. Sufficient distilled water is added to make a thin paste and one-sixth volume of hydrochloric acid, ferrous sulphate and copper wire are added as in the control test. The mixture is allowed to boil for twenty minutes.

The copper wire is washed in water and dried in alcohol followed by ether. A greyish black deposit on the wire may be caused by the presence of arsenic, antimony, mercury, bismuth or sulphides. The dried wire is introduced into a 10 cm. length of glass tubing and heated with a small gas flame. Arsenic trioxide will sublime and be deposited on the cooler portion of the tube as eight-sided crystals; antimony is deposited as a white amorphous mass and mercury in the form of minute globules. Identification of the deposit is best made under the low power of the microscope.

Standard textbooks of toxicology, such as Webster's "Legal Medicine and Toxicology," W. B. Saunders Company, Philadelphia, or McNally's "Toxicology," Industrial Medicine, Chicago, serve as excellent reference works.

If the results of the test are doubtful, the material should be referred to a laboratory for more technical methods of examination. It has been our experience, however, that the Reinsch test will be positive in cases of clinical arsenical poisoning. The main value of the test lies in ruling out arsenic as a source of a gastroenteritis. We feel that it should be performed routinely on unexplained cases of diarrhea, along with bacteriologic studies, and on those cases whose course is unsatisfactory.

The treatment of arsenical poisoning is unsatisfactory. Essentially, the removal of material from the stomach by a pump, using water lavage, is indicated when ingestion is recent. Saline catharsis is of value in removing the poison from the bowel. Forced fluids with a high caloric diet, calcium and phosphates and a high vitamin C and D intake should be given. The value of sodium thiosulphate

or ferrous hydroxide is questionable. In chronic arsenical poisoning, the prompt removal of the patient from the source is of more importance than subsequent treatment. No antidote for arsenic is known.

SUMMARY

1. Attention is called to the prevalence of arsenical poisoning in the Northwest.

2. A simple diagnostic laboratory test for the presence of arsenic is given.

3. Use of chemical methods for diagnosis of the etiologic agent of unexplained diarrheas should be made routinely.

UNDULANT FEVER

SUCCESSFUL TREATMENT WITH VACCINE AND

NEOPRONTOSIL

MIRIAM LINCOLN, M.D.

SEATTLE, WASH.

In 1901 the first cases of Malta fever in the United States were reported.¹ Since then, it has been recognized that abortive fever in cattle (*Bacillus abortus*), goat fever of Texas (*Micrococcus melitensis*) and infection of swine (*Bacillus suis*) are all closely related to the previously described Malta fever. This group of gram-negative coccobacilli, classified as *Brucella*, has since been demonstrated to infect human beings with a rather low-grade, usually milk-borne disease,²³ characterized by malaise, weakness, joint pains, night sweats, varied gastrointestinal and genitourinary symptoms and sometimes unusual nervous manifestations. Frequently the symptoms are very mild and insidious in onset. Occasionally, they are bizarre so that the patient complains only of urinary symptoms or may be diagnosed mistakenly as having neurasthenia or even encephalitis.⁴ The disease runs a protracted course, seldom less than three months, often becoming chronic, persisting for over a year. It is seldom fatal, although deaths from multiple liver abscesses and even *Brucella* endocarditis are reported.⁵

Clinical diagnosis is confirmed by the findings of leukopenia, relative and absolute lymphocytosis, possible anemia (secondary in type), positive cul-

1. Curry, J. J.: J. Med. Research, 6:241-248, 1901.

2. Carpenter, C. M. and King, M. J.: *Brucella Abortus* in Milk and Its Relation to Undulant Fever. J. Infect. Dis. 43:327-329, Oct., 1928.

3. Boak, R. and Carpenter, C. M.: Thermal Death Point of *Brucella Abortus* in Med. J. Infect. Dis., 43:327-329, Oct., 1928.

4. DeJong, R. N.: Central Nervous System Involvement in Undulant Fever. J. Nerv. & Ment. Dis., 83:430-442, April, 1936.

5. Spink, W. W. and Nelson, A. A.: *Brucella* Endocarditis. Am. Int. Med. 13:721-728, Oct., 1939.

**It is essential to have arsenic free reagents for the test. Specification of Analytical Grade hydrochloric acid and ferrous sulphate instead of USP or CP grades is necessary. The copper wire is of No. 20 gauge, polished with fine emery paper before use.

tures, agglutination tests or skin tests.⁶ Cultures of blood, stool and urine may be positive early in the disease, but from a practical standpoint, except when cystitis is a presenting difficulty, they may be negative. Serum agglutination tests are also frequently negative until late in the disease. Skin tests with brucella vaccine may give a positive result but may remain negative until the disease reaches a chronic form. Even with the improved vaccine, tremendous reactions with sloughs not infrequently take place, so that any patient given a skin test should be forewarned. The possibility of legal difficulties is not remote after a severe sloughing reaction.

Treatment has been limited to supportive measures, not one of the innumerable possibilities, including specific serum, proving effective.⁷ With recent advent of sulfanilamide, which has been found to raise the opsonocytaphagic activity of the organism, the future looks brighter. Because of the low leukocyte count, and the possibility of production of agranulocytosis by sulfanilamide, the patient must be carefully observed. Reports of cases treated with sulfanilamide alone show that the disease tends to recur, sometimes after several months.⁸ Theoretically, good results might be achieved by treatment with a combination of specific serum and sulfanilamide.

The following case is reported for three reasons: first, undulant fever is rarely reported in the Pacific Northwest; second, the patient illustrates skin sensitivity and a slough following skin testing; third, the patient made a prompt recovery when treated with a combination of vaccine and neoprontosil.

Mrs. L. C., sixty-year-old boarding-house keeper, was first seen March 21, 1939, complaining of tiredness, "aching in her bones," sweats at night, loss of about ten pounds in one month and progressive weakness. She stated that she first began to "drag about" approximately two months previously, following what she thought was mild stomach flu. Because of rheumatism, she decided to have her teeth extracted. This was done three weeks prior to her first visit. She had had no difficulty with the extraction but instead of feeling better she continued to grow weaker and the rheumatism and night sweats became more severe. She had used one quart of raw milk a day for three months, chiefly for cooking. The past history was noncontributory. She had not consulted a physician for over twenty years.

Physical examination revealed a sixty-year-old housewife, 63¾ inches tall, weighing 170 pounds. Her temperature was 101°. Her skin was moist and pale with rather pale mucous membranes. There was no glandular enlarge-

ment. The gums were fairly well healed from recent extractions. Tongue and throat were negative. Breasts were full and pendulous, with no masses. Outline of the heart appeared within normal limits, rhythm was regular, the rate 88, and there were no murmurs. Blood pressure was 118/70. Lungs were clear. Abdomen was obese and no organs or masses were palpable. The spleen could not be percussed below the costal margin. Pelvic and rectal examination were negative. Reflexes were in order.

Laboratory work showed a slight secondary anemia with a hemoglobin of 78 per cent (Sahli), red blood count 4,200,000 and white count 4,600. Voided urine was negative except for a faint trace of albumin and an occasional white cell. Blood Wassermann was negative. Agglutination for brucella was positive with a titer of 1:160.

Treatment consisted of the use of brucella vaccine and neoprontosil. She was given .07 cc. of Parke Davis undulant fever vaccine. In spite of the fact that this was less than a skin test dose, she developed a violent reaction with an elevated, purplish-red area, 3 cm. in diameter, with surrounding red flare 10 cm. in diameter. The center became purple, then almost black with an area of grey-green necrosis. One tenth cc. of vaccine was then diluted seventeen times and she was given 1/10 cc. of the dilution. This gave an elevated and indurated reaction about one and one-half cm. in diameter. This was followed by slowly increasing doses of the diluted vaccine at three-day intervals for three weeks.

Following the second injection, she was started on a course of neoprontosil tablets (40 grains a day for three days, 30 grains a day for four days, then 10 grains a day for a week thereafter). At the end of ten days she had no fever, malaise or sweats and felt stronger. At the end of three weeks she appeared well. Her white blood count was between 8,000 and 9,500. She continued to work through the entire illness. Contrary to expectation, her titer did not increase noticeably, being only 1:200 when symptom-free with a normal blood picture. She was given liver and extra vitamin B as supportive measures.

Eight months later she had had no recurrence and an agglutination test for brucella was negative. She still had a dark-red scar 1½ cm. in diameter where the first vaccine was given and also had several fading, pigmented, indurated nodules marking the first of the subsequent injections of diluted vaccine.

SUMMARY

A sixty-year-old woman, who, following the use of raw milk, developed fever, night sweats, rheumatism and weakness. She was diagnosed as having undulant fever on the strength of the history, leukopenia, positive agglutination and skin tests for brucella. Following treatment by increasing doses of brucella vaccine in conjunction with neoprontosil, she made a prompt recovery, without recurrence, eight months later.

6. Carpenter, C. M. and Boak, R. A.: Laboratory Diagnosis of Undulant Fever. *J. Lab. & Clin. Med.*, 15:437-443, Feb., 1930.

7. Carpenter, C. M. and Boak, R. A.: Treatment of Human Brucellosis. *Medicine*, 15:103-127, 1936.

8. McGinty, A. P. and Gambrell, W. E.: Chronic Brucellosis. *Internat. Clin.* 1:1-27, March, 1939.



STATE SECTIONS

OREGON

SIXTY-SIXTH ANNUAL MEETING, EUGENE, SEPTEMBER 3-5

PRESIDENT'S LETTER

To Members of Oregon State Medical Society:

Eugene, Oregon,

Jan. 24, 1940.

Over a period of years our society has engaged in various activities. It seems to me that the below "objectives" state fairly clearly our present program. One might gain the impression by attending our Council meetings that all of our time and effort is spent in solving the problem of the medical care of the low-income group. This one problem has taken a great deal of our time and energy during the past several years.

However, we are solving many other problems of a different nature. We believe that the indigent patient should have as adequate care as possible and that no individual should ever go without medical attention for lack of funds. We are working toward adequate care of the low-income industrial worker with free choice of physician and hospital, and with no third party interfering with the patient-physician relationship or dictating the type of care to be given.

We favor indemnity health insurance as a means of assistance in paying for medical and hospital care. Any plans for medical care of the low-income patient should be solely in the hands of the medical profession.

We are working for a state-wide program of postgraduate education for the members of our profession with close cooperation with our University of Oregon Medical School. We believe that our members should have every opportunity possible to improve their knowledge and skill in caring for the sick. This program will be offered at the Medical School as well as at the annual meeting and also taken to the communities where the individual physician resides.

We believe that the time has long passed when we can keep our knowledge and problems to ourselves and that we should engage in a very active publicity campaign to inform the public of the attainments and attitudes of organized medicine. Our attitude on the subject of prepaid medical care, state medicine and many other vitally important questions should be given to the public. We should become much more vocal than we have been in the past. As physicians, we must take an active part and exert an important influence in all organizations which have to do with health. There are none more capable than we to do this and these organizations need our help and influence.

Last, we need to support to the full the program of our own American Medical Association. Its platform should be memorized by all of us and preached wherever we go in all our various contacts. We should seek diligently to preserve democracy in medicine as we do in all our other valued institutions.

CHARLES E. HUNT,
President.

1940 OBJECTIVES

OREGON STATE MEDICAL SOCIETY

1. An enlarged program to bring more and better medical service to low-wage groups and the people generally.
2. An expanded program of postgraduate education for physicians throughout the state.
3. An enlarged program of public relations to inform the public concerning the principles underlying high-type medical service and the evils of politically or commercially controlled medical service.
4. *Close cooperation with every agency whose program touches medical care, preventive medicine, health education or any phase of medicine.*
5. Full support of the platform of American Medical Association to improve the health and medical services of the Nation.

Every physician in the state is urged to support these objectives by membership in his local medical society and Oregon State Medical Society and participation in their activities.

LEGAL MEDICINE

ETHICS AND LAW ENFORCEMENT

Principles of Medical Ethics provide:

"It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine; * * *

"Physicians should expose without fear or favor, before the proper medical or legal tribunals, corrupt or dishonest conduct of members of the profession.

"Physicians, as good citizens and because their professional training specially qualifies them to render this service, should give advice concerning the public health of the community. They should bear their full part in enforcing its laws and sustaining the institutions that advance the interests of humanity."

Practicing physicians of the state can be of great assistance in protection of the public from unprofessional physicians and illegal acts of cult practitioners, if they keep the above quoted principles clearly in mind.

The Oregon Board of Medical Examiners is charged by statute with the duty of revoking or suspending the license of any physician who violates the statutory rules governing unprofessional or dishonorable conduct. It is also charged with the duty of investigating any charge of practicing medicine without a license, and bringing such charge to the attention of the law enforcement agencies of the state. In some instances efforts of the Board in seeking to carry out its statutory duties have been nullified by conduct of physicians which may be regarded as unethical, under the above quoted Principles of Ethics.

When a physician has direct evidence of unprofessional

conduct of another physician, it is his duty to report such conduct to the body having jurisdiction, which is usually the Board of Medical Examiners and his county medical society. Patients and physicians are reluctant to subject themselves to the trouble and possible publicity involved in any such report. But if the physician brings home to his patient that the interest of the public should be protected from unprofessional physicians, he will normally see his duty. Similarly, when a physician has direct evidence of illegal acts of cult practitioners, he should bring such acts to the attention of law enforcement agencies.

In some instances, where criminal proceedings have been brought concerning alleged illegal acts of cult practitioners (practicing medicine without a license), effective prosecution has been prevented by a physician appearing as witness for the accused. Such physicians have testified to various things, such as the accused was acting under the physician's direction, the acts were "emergency" ones, the acts were "justified under the circumstances," the modalities used were "natural remedies" and not "medicines," and other things which apparently did not conform to the facts as testified to by other witnesses. The very fact that a physician offers himself as an expert witness for an accused under such circumstances often prevents the conviction of one obviously guilty. In very few instances have members of the State Medical Society participated in such procedures.

Another means of stultifying effective prosecution of alleged illegal acts of cult practitioners is not so apparent to physicians, but is none the less effective. When a person has been treated by a cultist by a modality that is not permitted, such as drugs or major surgery, unfortunate results often occur. Often the person receiving the illegal treatment to his injury wishes to bring a civil action for damages against the accused, and also is not adverse to testifying in a criminal action against the accused. The district attorney, or other law enforcement agency, usually waits until the civil suit has been disposed of, because it is not so difficult to secure a judgment in a civil action for damages as it is to convict in a criminal proceeding. If in those circumstances a physician offers himself as an expert witness on behalf of the accused in the civil suit, and testifies that the accused's conduct was justified under the circumstances when other physicians testify that it was not, the plaintiff usually loses the case. Furthermore, the district attorney will often refuse to bring a criminal action. He has his record to consider, and cannot be expected to work very hard on such a case.

If a physician has seen the person treated as a patient, and is subpoenaed to testify as to the facts observed by him, he is not engaging in unethical conduct. But in offering himself as an expert for the purpose of testifying that the accused pursued justifiable conduct, it may be that he is violating the above quoted Principles by assisting unqualified persons to evade legal restrictions governing the practice of medicine.

Ultimately the ethics of the medical profession and statutory regulation of the practice of medicine have the same goal, protection of the public. Physicians who violate the Principles of Ethics hamper the enforcement of laws governing illegal practice of medicine. They do this either indirectly by lowering the standards for all practitioners of the healing arts, or directly by enabling unqualified persons to evade legal restrictions.

ORGANIZATION ACTIVITIES

The Council of Oregon State Medical Society met on January 13 in Portland.

A number of very important matters came up and important resolutions were adopted:

POLICY CONCERNING SPECIAL PLANS OF MEDICAL CARE*

Whereas, the House of Delegates of the Oregon State Medical Society, on August 25, 1938, adopted a Policy and Program for the Medical Care of Low-Wage Industrial Groups, under which local plans for the care of such groups may be approved by the local societies and the Council of the Oregon State Medical Society; and such approved local plans now are serving approximately 30,000 employes in 16 counties, including a majority of the industrial centers of the state; and

Whereas, as an additional means of obtaining a better distribution of the costs of medical care, the American Medical Association and the Oregon State Medical Society have approved the principle of hospital service insurance as embodied in plans organized and operated by the hospitals on a non-suit basis; and

Whereas, the American Medical Association and the Oregon State Medical Society have also approved voluntary indemnity insurance plans, which are the best of the plans devised to obtain a better distribution of the costs of medical care; (voluntary indemnity insurance plans may be defined as plans operated by a true insurance company under the legal safeguards provided by the insurance laws governing health and accident insurance wherein the function of the company is restricted *solely to reimbursing the insured* for expenses incurred for medical and hospital services covered by its policy, as distinguished from plans operated under the hospital association law wherein the hospital associations operating the plans contract to furnish medical care to subscribers under conditions prescribed by these associations); and

Whereas, the Oregon State Medical Society may be requested to approve various other types of special plans;

Now Therefore, the Council of the Oregon State Medical Society hereby adopts the following policy to be applied in considering for approval special plans other than local medical service plans having the approval of the respective local societies, hospital service insurance plans, and voluntary indemnity insurance plans;

1. The sponsors of such other special plans should apply to the Council for approval and should not importune local societies or individual members of the Society for their approval without first applying for and obtaining the approval of the Council.

2. The sponsors of such plans must establish that their plans are organized and conducted in accordance with the best interests of the public, the policies of the Oregon State Medical Society, and the Principles of Medical Ethics.

3. The sponsors of such plans must establish clearly that their plans observe the following principles:

(a) All physicians practicing ethical medicine in their respective communities must be eligible to perform service and the agency conducting the plan must not have the power to arbitrarily exclude any physician from eligibility.

(b) Opportunity to practice medicine and surgery without a license must not exist or be inherent in the plan; as, for example, the agency conducting the plan must not have power to determine whether an operation or other procedure is justified, when the physician employed by the subscriber deems such procedure advisable.

(c) The physician selected by the subscriber must be responsible solely to his patient and not to a third person who can directly or indirectly terminate the physician's services because of his failure to satisfy such third person as to the efficacy of his service.

(d) The agency conducting the plan must not give the public the mistaken impression that it will pay all medical and surgical bills of the subscribers, when, as a matter of fact, the conditions and limitations of the contract are so

numerous and physicians' fee schedules so low as to make such payment impossible.

(e) The agency conducting the plan must not attempt to sell physicians' services without their permission, and without consulting them.

(f) The plan must not contain any other features not in the best interests of the public.

4. It is contrary to the best interests of the public and the medical profession for members of the Oregon State Medical Society or its component societies to associate themselves directly or indirectly, with any special plan of medical care which has not been submitted to and approved by the Council.

5. The Secretary is instructed to transmit a copy of this resolution to each member of the Society.

*Adopted by the Council of the Oregon State Medical Society on January 13, 1940.

THE NATIONAL PHYSICIANS' COMMITTEE FOR THE EXTENSION OF MEDICAL SERVICE*

Physicians in Oregon and other states are being asked to contribute to the National Physicians' Committee for the Extension of Medical Service.

The purposes of this committee are embodied in the following motion, unanimously adopted by the Directors:

Resolved, that the National Physicians' Committee for the Extension of Medical Service is a non-profit, non-political organization for maintaining ethical and scientific standards and extending medical service to all the people . . . and for . . . cooperating with lay and medical institutions and groups, interested in the preservation of national health, to make more generally known the achievements and to safeguard the independence of American medicine.

In the December 2, 1939, issue, "The Journal of the American Medical Association" comments as follows concerning the organization, personnel, and work of the committee:

"This committee is headed by a group of physicians, many of whom are widely known for their work in the American Medical Association. The organization is not, however, officially connected with the American Medical Association itself. Information elicited from the officials of the National Physicians' Committee indicates that this group has been organized voluntarily to carry on education of the public regarding the extension of medical service and preventive medicine. Their work is of the nature of public relations activities. The National Physicians' Committee is in a position to accept contributions from industrial and other organizations in order to aid this campaign. The American Medical Association itself has not in the past and does not accept such contributions. Officials of the organization state also that it is their intent to include in the various subcommittees of the main organization groups of dentists, nurses, hospital executives, pharmacists and all of the other special groups in the field of medicine."

The American Medical Association and the Oregon State Medical Society are scientific organizations, which do not engage in this type of activity and cannot contribute to this committee from their funds. The committee must rely wholly upon voluntary contributions from physicians, dentists, nurses, hospitals, pharmacists, and lay groups interested in the private practice of medicine. *Members of the Society are urged to contribute.*

*Approved for publication by the Council of the Oregon State Medical Society on January 13, 1940.

POLICY CONCERNING ETHICAL RELATIONSHIPS OF MEMBERS IN SERVING SUBSCRIBERS OF UNAPPROVED HOSPITAL ASSOCIATIONS AND SIMILAR ORGANIZATIONS*

1. The following conduct of physicians may be regarded by the disciplinary bodies of the local medical societies as some evidence of association with unapproved organizations or organizations engaged in unethical practices:

(a) Accepting tickets of such organizations.

(b) Billing such organizations directly.

(c) Accepting payment directly on the organization's fee schedule, including accepting checks from such organizations, or checks of such organizations endorsed by the patient.

(d) Rendering reports to such associations concerning conditions of the physician's patients.

(e) Becoming one of a limited panel of physicians at the call of such organizations.

(f) Any other conduct indicating association with such organizations.

2. *Merely performing medical service for a patient* who happens to be covered by a contract of an unapproved hospital association or similar organization is not in itself sufficient evidence of association of physicians with such associations or organizations *provided the entire dealing and conduct of the physician shows the normal relationship of physicians and patient.*

3. Such organizations employ methods which are not in the best interests of the public and the medical profession in that:

(a) *They interject a third party between the patient and his physician and attempt to control the nature and extent of the physician's services to the patient.*

(b) *They attempt to control the compensation of the physician which should always be determined by the patient and his physician, keeping in mind the patient's ability to pay.*

(c) *They reap a profit from the physician's services, at the expense of the patient.*

(d) *They seek to gain control over the medical profession.* Domination of the medical profession by commercial corporations is probably more detrimental to the public welfare and the medical profession than regimentation by the government. Due largely to the efforts of organized medicine, efforts to promote the federal control of medical practice have suffered severe set-backs during the last year. *Public opinion is turning toward the medical profession and the present system of private practice.* These gains will be nullified if commercial corporations obtain domination over medical practice.

The Council met with Mr. Charles Bechtold, Manager of the National Hospital Association, to hear his description of the hospital-medical security plan advocated by the National Hospital Association. A very interesting discussion followed the presentation.

The Council employed Mr. John R. Caughell as assistant to the executive secretary in connection with the work of the Bureau of Medical Economics. Mr. Caughell attended the University of Oregon and majored in economics. After completion of his college work, he went into business for himself. He later was employed in a bank in Salem and subsequent to this held a sales position. He has been associated with an approved medical service bureau for a period of about three years and is well acquainted with the type of work he is now going to be engaged in. This action has become necessary because of the increasing amount of work handled through the Society headquarters by the executive secretary.

*Adopted by the Council of the Oregon State Medical Society on January 13, 1940.

UNIVERSITY MEDICAL SCHOOL

POSTGRADUATE SESSION IN MEDICINE

The first annual Postgraduate Session in Medicine will be conducted by the Department of Medicine at the University of Oregon Medical School in Portland, February 26, 27 and 28. The session will be devoted exclusively to diseases of the heart.

The session will consist of morning and afternoon meetings on each of the three days and evening sessions on February 26 and 27. All important phases of heart disease will be covered from a standpoint of symptoms, signs, diagnosis and treatment.

The course is open to all physicians who wish to attend. The matriculation fee will be \$15. This will include not only the course as given, but also a mimeographed volume containing abstracts of all the presentations.

All physicians desiring to register for this course should communicate with Mr. Ralf Couch at the University of Oregon Medical School. The amount of the fee should be inclosed with the application. The registration list will close February 24. Applicants should include their name, address and school, with date of graduation in the letter of application.

PROGRAM

"The criteria for a cardiac diagnosis and the evaluation of cardiac function".....	R. H. Keane
"The symptoms and signs of heart disease".....	H. P. Lewis
"Dyspnea".....	Frank Underwood
"Edema".....	M. F. Gourley
"Cyanosis".....	E. E. Osgood
"Disturbances of cardiac rhythm and conduction".....	H. P. Rush
"Radiological study of the heart and aorta".....	H. P. Lewis
"The use and action of digitalis and quinidine".....	L. J. Meienberg
"The action and use of diuretics in heart disease".....	J. C. Kennedy
"Other drugs used in the management of heart disease".....	C. W. Coffen
"Physical, dietetic and nursing methods in heart disease".....	D. E. Forster
"Rheumatic heart and vascular disease".....	M. C. Riddle
"Syphilitic disease of the heart and aorta".....	W. E. Gatewood
"Non-rheumatic diseases of the endocardium and valves".....	F. R. Mount
"Hypertensive cardiovascular renal disease".....	E. E. Osgood
"Other causes of hypertension".....	E. M. Burns
"Cor-pulmonale and pulmonary vascular disease".....	I. C. Brill
"Atherosclerotic heart disease".....	H. P. Rush
"Electrocardiographic changes in coronary thrombosis".....	A. M. Davis
"Thyroid heart disease and other diseases of the myocardium".....	R. A. McMahon
"Diseases of the pericardium".....	E. D. DuBois
"Congenital heart disease".....	C. E. Sears
"The beri-beri heart".....	E. W. Abrams
"Traumatic heart disease".....	R. F. Miller
"The heart in pregnancy".....	L. A. Goldsmith
"Functional heart disease".....	L. Selling
"Peripheral vascular failure".....	M. L. Margason
"The estimation of the risk and the management of the surgical patient with heart disease".....	C. P. Wilson
"Surgery of the heart".....	T. M. Joyce
"The surgical treatment of angina and hypertension".....	W. K. Livingston
"The management of anginal heart failure".....	T. H. Coffen
"The management of congestive heart failure".....	N. W. Jones
"Cardiac manifestations of gastro-intestinal disease".....	W. F. Hollenbeck

Demonstrations of pathology included in discussions will be presented by the Department of Pathology.

MEDICAL SCHOOL NEWS

J. B. BILDERBECK, Professor of Pediatrics and Chief of Staff of the Doernbecher Hospital of the Medical School was recently complimented by a dinner in his honor at the University Club because of his appointment as President of the American Society of Pediatricians.

MR. ARCHIE WOODS, Vice-President of the John and Mary Markle Foundation for Research is to pay a visit to the Medical School on February 2. He is coming from New York.

JOHN E. WEEKS has been appointed Honorary Professor of Ophthalmology at the Medical School, in consideration of his distinguished service to and interest in school.

BEN VIDGOFF, Clinical Instructor of Pharmacology, is in receipt of a grant in the sum of \$300 from the Lilly Research Laboratories to further his hormone studies.

E. E. OSGOOD, Associate Professor of Medicine and Head of the Division of Experimental Medicine, has received a grant of \$750 from the Dazian Foundation for Medical Research, to be used in the study of effects of x-rays and radioactive substances on marrow cultures.

H. F. HANEY, Associate Professor of Physiology and Head of the Department, and WILLIAM B. YOUMANS, Assistant Professor of Physiology, have received a gift in the sum of \$1,700 from the John and Mary Markle Foundation to be used in research on the visceral responses in animals.

F. B. ZENER has received a grant of \$500 from the Ciba Pharmaceutical Products, Inc., to study blood iodine values and basal metabolism.

STATE BOARD OF HEALTH

MINIMUM STANDARD FOR TREATMENT OF SYPHILIS

Late in February, the State Board of Health will send to all physicians of Oregon a pamphlet, "Minimum Treatment for Early Syphilis." The material has been approved by the State Medical Society Council and Committee on Venereal Disease Control.

Minimum accepted treatment for syphilis is considered to be the injection of at least thirty doses of an arsenical and forty doses of bismuth at weekly intervals, over a period of seventy weeks for all early syphilis, except seronegative primary. Spinal fluid examination is considered essential before discharge of any case of early syphilis.

A schedule of treatment, explanation of "The Best Treatment for the Early Case" by John H. Stokes, M.D., technic of darkfield, spinal fluid examination, and reaction-prevention principles are given.

MEETING OF APPROVED LABORATORIES

The second annual conference of approved laboratories of Oregon was held January 5 and 6, and was a real success, both from the viewpoint of attendance and from the nature of scientific material presented. Ninety-six persons were registered, almost double the number of the first conference. Thirty-seven of the forty-three approved laboratories were represented by one or more workers.

Speakers on the program were Drs. Stricker, Levin, Allison, and Mrs. D. Nielson, representing the State Board of Health, Drs. Robertson, Furrer and Charlton discussing the Gram stain, water and milk examinations, and Drs. Sears, West, and Osgood of the University of Oregon Medical School conducting a symposium on pneumonia. Dr. Larsell spoke at the evening session on the history of public health in the Northwest.

The Conference voted to form an association, but was divided in its opinion as to the exact type of organization most suitable for the group. The temporary chairman, Dr. William Levin, appointed the following persons on the Constitution and By-laws Committee to make a study of the whole matter and to submit a report at the next annual meeting: Donald C. Prentiss, St. Mary's Hospital, Astoria, Chairman; Richard B. Adams, Burgman and Adams Laboratory, Portland; Miss Emma M. Howe, Emma M. Howe Laboratory, Portland; Mrs. Harriet W. Toles, Harriet W. Toles Laboratory, Marshfield; and Miss Rose-Marie Schoeni, County Health Department Laboratory, Klamath Falls.

LABORATORIES APPROVED FOR 1940

In compliance with state law applicants for a marriage license are required to have blood tests and smear examinations as part of their physical examination. These tests must be performed by laboratories approved by the State Board of Health.

Physicians and county clerks are again reminded that the Kahn and Kolmer tests are the official blood tests and that the Gram stain is the official stain for the smears. Reports from approved laboratories alone will be accepted by the State Board of Health and the State Board of Eugenics.

Approved

Laboratory No.	NAME OF LABORATORY	Location
1.	Hygienic Laboratory, State Board of Health.....	Portland
2.	City Health Bureau Laboratory.....	Portland
3.	Emil D. Furrer Clinical Laboratory.....	Eugene
4.	Salem Clinic Laboratory.....	Salem
5.	Oregon State Hospital Laboratory.....	Salem
6.	Bree Clinical Laboratory.....	Portland
7.	Hendrie Clinical Laboratory.....	Salem
8.	Emma M. Howe Laboratory.....	Portland
9.	Huntley Laboratories.....	Portland
10.	Sacred Heart Hospital Laboratory.....	Medford
11.	Harriet W. Toles Clinical Laboratory.....	Marshfield
12.	Corvallis General Hospital Laboratory.....	Corvallis
13.	Klamath Medical Clinic Laboratory.....	Klamath Falls
14.	Klamath County Health Department Laboratory.....	Klamath Falls
15.	Eugene V. LaClair Laboratory.....	Roseburg
16.	Community Hospital Laboratory.....	Medford
17.	Laboratory—Drs. Morse, Robertson, Power, Buren, Robertson and Miller.....	Salem
18.	Portland Medical Hospital and Portland Clinic Laboratory.....	Portland
19.	Mohawk Laboratory.....	Portland
20.	Coffey Memorial Hospital Laboratory.....	Portland
21.	Portland Sanitarium & Hospital Laboratory.....	Portland
22.	Laboratory of Drs. Lewis, Keane and Forster.....	Portland
23.	McMinnville Hospital, Inc., Laboratory.....	McMinnville
24.	Burgman and Adams Laboratory.....	Portland
25.	Hillside Hospital Laboratory.....	Klamath Falls
26.	Ontario Clinical Laboratory.....	Ontario
27.	Grande Ronde Laboratories.....	La Grande
28.	The Dalles Hospital Laboratory.....	The Dalles
29.	H. J. Lawrence Medical Laboratory.....	Portland
30.	Deaconess Hospital Laboratory.....	Salem
31.	Good Samaritan Hospital Laboratory.....	Portland
32.	Laboratory—Department of Bacteriology U. of O. Medical School.....	Portland
33.	Columbia Hospital Laboratory.....	Astoria
34.	St. Joseph Hospital Laboratory.....	La Grande
35.	St. Vincent Hospital Laboratory.....	Portland
36.	St. Mary's Hospital Laboratory.....	Astoria
37.	Emanuel Hospital, Dr. H. H. Koskett Laboratories.....	Portland
38.	Outpatient Clinic Laboratory, U. of O. Medical School.....	Portland
39.	Laboratory—Drs. Mount and Dubois.....	Portland
40.	St. Charles Hospital Laboratory.....	Bend
43.	Laboratory of Drs. Myers and Kurtz.....	Salem

NEW HEALTH UNIT AT BAKER

On February 1 a full time County Health Department was opened at Baker under the direction of Charles J. Hedlund. Dr. Hedlund practiced in Minnesota prior to taking training in Public Health at the University of Minnesota.

The department is temporarily located in the City Hall while awaiting completion of quarters at the County Court House. The staff consists of a medical director, two public health nurses, and a secretary, Mrs. Tony of Haines.

MEDICAL NOTES

COUNTY HOSPITAL OPENED. New hospital at the county farm at Fairview, Coos County, was opened December 20. The building is of frame construction and the simple lines in its design provide easy care. The hospital is one phase of a program of improvement which has been going forward for several years.

R. N. SHERWIN, head of the Washington County Health Department for the past fourteen months, has tendered his resignation. He is moving to Tucson, Arizona, as resident physician at St. Mary's Hospital in that city.

H. M. STOLTE has been appointed acting head of Yamhill County Health Department, taking over the position left vacant by the resignation of L. S. Goerke, who has taken up his new position as head of the health department in Yolo, California.

SERVES FINLAND. Henry A. Hartman of Astoria has volunteered for service in the Finnish army medical corps, leaving an eighteen year old practice for the sake of his native country.

MELVIN E. JOHNSON has been appointed city health officer for North Bend, succeeding Dean P. Crowell who has established offices in Marshfield. Drs. Crowell and Ennis Keizer have recently announced dissolution of their partnership.

HOSPITAL STAFF ELECTS. J. H. Garnjobst was elected president, J. O. Matthes vice-president, and C. S. Campbell secretary, of the staff of the Salem General Hospital.

DEBATE SOCIALIZED MEDICINE. Socratic Debating Society of Portland held a debate during January on the question, "Should America Have Socialized Medicine," The negative was presented by John A. Fitzgibbon.

C. S. MOORE has been named county physician of Union County, replacing W. K. Ross. D. R. Rich was appointed health officer.

LOCATION. Edward S. Morgan of Portland has joined J. P. Brennan at Pendleton. Dr. Morgan graduated from the University of Oregon, spent two years at Baltimore with J. M. T. Phinney, and a year at Boston with Lahey.

STEWART S. MERRILL has begun general practice in Wal-lowa. He is a graduate of the College of Medical Evangelists at Los Angeles and interned at Emanuel Hospital in Portland.

OBITUARIES

DR. ARCHIE K. HIGGS died in Portland January 19, at the age of 69. Cause of death was coronary occlusion.

DR. WALTER W. BRUCE died in Portland, January 10, at the age of 63. Cause of death was coronary thrombosis.

SOCIETY MEETINGS

CENTRAL WILLAMETTE MEDICAL SOCIETY

Pres., Henry Garnjobst; Secy., E. H. Kelly

January meeting of Central Willamette Medical Society was held at the Albany Hotel, Albany, January 11. J. H. Garnjobst of Corvallis, newly installed president, presided. Following the dinner I. C. Brill, assistant clinical profes-

sor of medicine of University of Oregon Medical School, discussed "Failure of the Circulation, Types and Treatment." Lantern slides were shown to illustrate the paper.

CLACKAMAS COUNTY MEDICAL SOCIETY

Pres., W. O. Steele; Secty., W. R. Eaton

Annual meeting of the Clackamas County Medical Society was held December 29, 1939. Edwin A. Hendry of Canby was elected president, A. H. Huycke of Oregon City vice-president, and W. R. Eaton of Oregon City, secretary-treasurer.

COOS-CURRY COUNTIES MEDICAL SOCIETY

Pres., J. M. Simpkin; Secty., B. E. Barkwill

Coos-Curry Counties Medical Society held a meeting January 10 at the home of John Simpkin, Marshfield. It was addressed by Donald M. Long of Marshfield on "Perforated Gastric Ulcers."

MULTNOMAH COUNTY MEDICAL SOCIETY

Pres., R. A. Payne; Secty., C. P. Wilson

Roy A. Payne has been installed as president and Stanley Lamb named president-elect of the Multnomah County Medical Society. W. H. Buermann was elected vice-president, Charles Wilson, secretary, and B. O. Woods, treasurer.

YAMHILL COUNTY MEDICAL SOCIETY

Pres., W. C. Edmundson; Secty., A. G. Noble

At a recent meeting of the Yamhill County Medical Society Charles L. Williams, of McMinnville, was elected President and A. G. Noble of McMinnville was reelected secretary.

WOMAN'S AUXILIARY

MULTNOMAH COUNTY SOCIETY AUXILIARY has elected the following officers: Mrs. Harry B. Moore, President; Mrs. Charles H. Manlove, President-Elect; Mrs. Roy A. Payne, First Vice-President; Mrs. Ira E. Gaston, Second Vice-President; Mrs. Morris L. Bridgeman, Recording Secretary; Mrs. Robert Thomas, Corresponding Secretary; Mrs. Dorwin L. Palmer, Treasurer; Mrs. Paul T. Neely, Auditor.

The December meeting was held at the Albertina Kerr nursery, each member bringing a toy or contribution for the general gift fund. Mrs. U. C. Coe had charge of collection of gifts for the children. A salad luncheon was served, after which Miss Gladys Dobson, prominent social service worker, spoke appropriately on "Guidance for the Very Young."

MID-COLUMBIA SOCIETY AUXILIARY joined the doctors at their December dinner and viewed with them some interesting moving pictures, shown by Dr. T. E. Griffith, covering some postgraduate work he had just completed on electrocardiography.

MARION-POLK-YAMHILL SOCIETY AUXILIARY gives an account of two interesting meetings. On November 14 the members heard a talk on "Fingerprinting" by the business administrator of the state penitentiary. A delightful Christmas party was enjoyed at the home of the president, Mrs. G. C. Bellinger. The *Hygeia* committee chairman, Mrs.

Burton Myers of Salem, announced that 99 subscriptions had been placed in the one-room school of Polk and Marion counties. On January 9 the Auxiliary had a joint banquet with the doctors of the community. The following new officers were elected: Mrs. J. J. Panton, President; Mrs. Horace J. Miller, Vice-President; Mrs. Charles Campbell, Secretary; Mrs. Verden Hockett, Treasurer.

BENTON COUNTY SOCIETY AUXILIARY enjoyed a holiday party at Corvallis at the home of Mrs. Henry Garnjobst, president, to which were invited the Corvallis doctors and many outside guests, including couples from Salem, Eugene and Lebanon.

LANE COUNTY SOCIETY AUXILIARY cooperated at Christmas time with the Tuberculosis Seal Committee of the community, providing members for two full days at the postoffice booth. Mrs. Merle G. Howard was in charge for the auxiliary. The following officers were elected: Mrs. C. E. Hunt, Eugene, President; Mrs. Charles D. Thompson, Eugene, Vice-President; Mrs. E. L. Gardner, Eugene, Secretary; Mrs. T. A. McKenzie, Eugene, Treasurer.

CLATSOP AND TILLAMOOK COUNTIES AUXILIARY joins the physicians in interest in medicine and public health. The local medical society has given nontechnical weekly radio programs, understood and appreciated by the general public. Members of the auxiliary are accepting positions on committees of various organizations in the district and are carrying out the program for this year which is "Public Relations."

A news letter will be sent to all members of the Oregon State Auxiliary about the first of February, along with a new directory as soon as names of all new county officers and committee chairmen are available.

DORIS ABELE (Mrs. J. F.)

Chairman, Press and Publicity Committee

COBRA VENOM FOR RELIEF OF ARTHRITIS

Cobra venom offers possibilities of proving of value for the relief of pain from neuralgia, arthritis and related disorders, Otto Steinbrocker, M.D., George C. McEachern, M.D., Emanuel P. LaMotta, M.D., and Freeman Brooks, M.D., New York, reveal in *The Journal of the American Medical Association* for Jan. 27 in a report that 59.01 per cent of sixty-one patients in whom they injected venom were slightly or moderately benefited.

The results from injections of cobra venom are compared by the investigators with those obtained from injections of saline (salty) solution in thirty-six patients also suffering from arthritic disorders, only seven of whom experienced any benefit.

"Accurate determination of such treatment value requires further controlled investigation in a large series of the various rheumatic conditions," the authors caution.

Further discussing the results they say: "The good effects of the snake extract were in no instance apparent before at least five injections (given from two to five a week) had been administered, and usually from eight to ten treatments were required before any benefit was admitted or noticed. The venom cannot be substituted for the predictable, rapid pain-relieving effect of a narcotic, nor does it seem to act uniformly as to degree and time in approximately similar involvement."

WASHINGTON

FIFTY-FIRST ANNUAL MEETING, TACOMA, AUGUST 26-28

NEW MEDICAL AID RULES

The State Department of Labor and Industries has adopted a revised set of medical aid rules governing industrial insurance cases. They will be issued in pamphlet form in the near future, and a copy sent to each physician handling such cases. The revised rules were worked out in cooperation with the Committee on Industrial Insurance of the State Medical Association. Prior to the final committee approval of the revisions, however, they were considered and approved by representatives of the various specialties of medicine in Washington at an open meeting held with the Committee.

Provisions have been incorporated throughout these new rules, making it easier for physicians to comply with the law governing industrial insurance cases, and to expedite the handling of physicians' claims by the Department. One change of major importance provides that bone grafts, nonunion of fractures, reconstruction of any part of the face, etc. shall be done on the basis of a prearranged fee between the physician and the Department, rather than covering all these cases under flat fees. Another major change is that flat fees for service are to cover the ordinary amount of care required for an uncomplicated case. In complicated cases or in cases of longer than usual duration, the question of additional compensation can be arranged between the attending physician and the Department. A detailed statement of the new provisions appearing in the revised rules will be given in subsequent issues of *NORTHWEST MEDICINE* and in bulletins of county medical societies.

FEDERAL INCOME TAX

The following information in regard to the Federal Income Tax is of interest to physicians:

FILING YOUR INCOME TAX RETURNS FOR 1939

1. Study carefully the instructions on the form.
2. Assemble data for filing the returns early.
3. Keep memorandums after the return is prepared.
4. Give full explanation so that an intelligent audit can be made. March 15, 1940, is the last filing date and to avoid the congestion in the collector's office file your return early.

Who must file returns? The following individuals must make returns under oath stating specifically the items of gross income and deductions and credits allowable:

1. Every individual having a net income for the taxable year of \$1,000 or over, if single, or if married and not living with husband or wife.
2. Every individual having a net income for the taxable year of \$2,500 or over, if married and living with husband or wife.
3. Every individual having a gross income for the taxable year of \$5,000 or over, regardless of the amount of his net income.

If a husband and wife living together have an aggregate net income for the taxable year of \$2,500 or over, or an aggregate gross income for such year of \$5,000 or over, each shall make a return, or the income of each shall be included in a single joint return, in which case the tax shall be com-

puted on the aggregate income. The exemptions are \$1,000 for single persons and \$2,500 for married persons living together. Also, a taxpayer is allowed a credit of \$400 for each person dependent upon him or her for chief support, if such person is under eighteen years of age or incapable of self-support because mentally or physically defective.

Deductions for professional expenses. A professional man may deduct all necessary expenses incurred in the pursuit of his profession. These include the cost of supplies used in his practice, office rent, cost of light, water, fuel, and telephone in his office, the hire of office assistants, and expenses paid in the operation and repair of an automobile, based upon the proportion of time it is used in making professional calls or for other professional purposes.

Many physicians use their residences both as offices and homes. In such instance the physician may deduct as a business expense the rental value of the rooms occupied for office purposes if he actually pays rent, and also the light and heat furnished these rooms. Also, he may deduct a portion of the wages paid domestic servants, whose time is partly occupied in caring for these rooms. Membership dues in professional societies are deductible. Physicians and dentists who keep in their waiting rooms current magazines and newspapers for the benefit of their patients may deduct this item as a business expense. The cost of professional journals for the taxpayer's own use is also a deductible item.

The cost of technical books is not a deductible item, being a capital expenditure, but a proportionate amount for each year's depreciation of the books may be deducted. Depreciation may also be taken on office furniture and equipment. Insurance premiums on office or other professional equipment and liability insurance may be deducted. A premium paid for automobile liability insurance should be apportioned and that part of the premium attributable to business may be deducted as a business expense.

SOCIALIZED MEDICINE

A matter of interest to physicians pertaining to the question of socialized medicine is the action taken by the National Grange at the annual convention of that organization held in Peoria, Illinois, during November. The Grange, which has a membership of more than one million farm persons, adopted a resolution opposing the Wagner Act and socialized medicine in general and instructed its committee on legislation to oppose all proposals of this kind in the present Congress.

Another interesting lay reaction on this subject is the following editorial which appeared recently in the *Christian Science Monitor*:

"Nearly unanimous refusal of the 1,000 physicians of New Zealand to accept a state-guaranteed annual income of \$7,500, provided they cooperate with the Government's socialized medicine law, illustrates the attitude toward compulsory sickness insurance of many doctors in every country. The sum offered the New Zealanders is more than the average doctor there earns.

"Motives of doctors in the United States who have op-

posed the compulsory insurance plan have been questioned by some skeptics, who appear to think medical men are afraid their earnings will be reduced. Many thousands know of the philanthropy of the better class of physicians. Some estimates of the annual amount of free service given by American physicians place it at more than \$300,000,000 a year.

"Obviously the current opposition of organized medicine to the interference of government is based on higher than mere monetary grounds. As the American Medical Association declares, compulsory sickness insurance may be harmful to patient, physician and state."

STATE ASSOCIATION ACTIVITIES

STATE ASSOCIATION DUES

The dues of the State Medical Association for 1940 are now due and payable. Each member is requested to assist the secretary of his county medical society in the collection of such dues by making prompt remittances.

RECORD ASSOCIATION MEMBERSHIP

Paid membership in the Association for 1939 was 1346, an all-time record. It is expected that delinquent collections will boost this total to 1360. The previous record was 1320 paid members for 1936. Including the honorary members of the various county societies, those received last year by transfer and those whose dues were remitted, the roster shows approximately 1470 members in the Association at the present time.

POSTGRADUATE MEDICAL EDUCATION

Over 150 members of the Association have signified a willingness to speak before meetings of county medical societies and other medical organizations. This group will form the nucleus of the Speakers' Bureau being organized by the Committee on Postgraduate Medical Education. A list of these speakers, classified by the subjects they are prepared to discuss, is now being assembled and will be made available in the near future to all county medical societies and to the various groups interested in securing medical speakers. Request for speakers should be made to the Central Office of the Association, 218 Cobb Building, Seattle.

MATERNAL AND CHILD WELFARE COMMITTEE

The Maternal and Child Welfare Committee met in Seattle December 17. Some of the topics discussed were cooperation with State Health Department in matter of urging physicians to comply with the law regarding the filing of birth certificates, requesting each county medical society to devote at least one program a year to obstetrics and one to pediatrics, and furnishing of speakers to discuss these subjects before lay audiences. The Committee has been cooperating with the Committee of Eight in a study looking towards reduction of infant mortality. It was decided to emphasize at every opportunity the necessity of having a trained pediatric nurse in charge of every nursery, as being one means of reducing this mortality. Various members of the Committee are planning to write papers on obstetrics and pediatrics for publication in NORTHWEST MEDICINE, county society bulletins and newspapers.

NEOPLASTIC COMMITTEE

The Neoplastic Committee is conducting a program of professional and public education relative to cancer preven-

tion, control and treatment. Three meetings of the Committee have been held to date. A letter was sent in January to all members of the Association, urging them to assist in "the state-wide educational attack on the cancer problem, stressing the two points of early diagnosis and early treatment." A copy of the "Ten Golden Rules of Cancer Examination," approved by the American Society for the Control of Cancer was also supplied each physician, together with the pamphlet "Answers to the Public's Questions on Cancer." An exhibit is being planned by the Committee for the annual meeting of the Association in Tacoma.

MEDICAL NOTES

RADIO BROADCAST. Remember to listen to "Appointment With Health" broadcast of Washington State Medical Association, released over the Mutual Don Lee Network Stations in this state every Sunday at 2:00 p.m.

COUNTY HOSPITAL OPPOSED. Rather than build a new hospital, Chelan County Medical Society feels that an addition should be constructed at the site of the present county hospital. This statement was made when the county commissioners asked for opinion of the medical society on the construction of a new hospital.

HOSPITAL RECEIVES AID. A number of gifts were received during December by the Shelton General Hospital. Largest of these was a draft for \$25,000 which was presented by Mrs. Agnes H. Anderson of Seattle. This sum was placed in an endowment fund which she established last year.

HEALTH OFFICERS APPOINTED. W. C. Trowbridge was reappointed health officer of Goldendale. Donald Keyes of Bellingham was reappointed.

HEALTH OFFICER APPOINTED. Alfred E. Eyres has been given a permanent appointment as health officer of Clallam County.

HOSPITAL SUPERINTENDENT. Mrs. A. M. Overturf has been named superintendent of the Peninsula Hospital at Ilwaco.

LIBRARY GENERALLY USED. Pride of Spokane County Medical Society in the medical library is reflected in the report which shows that 90 per cent of the members use the library regularly. This is an unusually high percentage.

TACOMA SURGICAL SOCIETY will hold its annual meeting at Medical Arts Building, Tacoma, March 23. Owen H. Waugensteen, professor of surgery, University of Minnesota Medical School, will be guest speaker. General subject of the meeting will be "Complications of Abdominal Surgery."

PUGET SOUND SURGICAL SOCIETY will hold its annual meeting in Seattle, March 8-9. The guest speaker will be Howard K. Gray, consulting surgeon of Mayo Clinic and assistant professor of surgery of the Mayo Foundation. At a dinner at the Rainier Club, Friday, March 8, 6:30 p.m., Dr. Gray will speak on "Problems Associated with Occlusive Diseases of the Extrahepatic Bile Ducts." On March 9 there will be clinics at King County Hospital with lectures by Dr. Gray. Afternoon clinic at 2:30. The annual formal banquet at Rainier Club, 6:30 p.m., with address by Dr. Gray on "Significance and Surgical Management of Ulcerating and Neoplastic Lesions of the Stomach."

LOCATIONS. Frank Corneliuson, formerly of Bowman, North Dakota, has moved to Olympia. Charles E. Conner of Wenatchee has opened an office in Cashmere. He is asso-

ciated with A. E. Gerhardt of Wenatchee and will do part time practice in Cashmere. Kenneth P. Jackson, who has been practicing in Deer Park, has moved to Bremerton.

WEDDINGS. John L. Hardy, Jr. of King County Hospital, Seattle, and Miss Marie Hayes of Portland were married in Portland, February 4.

Herbert H. Minthorn of Longview and Miss Anne Britain of Hinsdale, Ill., were married at home of the bride December 30.

OBITUARIES

DR. THOMAS R. LOHR of Seattle, Wash., died January 4 of a cerebral hemorrhage, aged 70. He was born in Bloomington, Ill., August 26, 1869, and received his medical degree from the College of Physicians and Surgeons in Keokuk, Iowa, graduating in 1896. He practiced for a time in Missouri and came to Washington in 1908.

DR. FREDERICH COOK of Seattle, Wash., died January 2, aged 61. He received his medical education at Northwestern University, Chicago, graduating in 1903. Two years later he came to Seattle and had practiced for thirty-five years.

DR. RICHARD S. STARKEY of Seattle, Wash., died December 23, aged 73. He was born in New Brunswick, Canada, in 1867 and received his medical education at Jefferson Medical College, Philadelphia, graduating in 1895. He came to Washington in 1899 and had been a resident of Seattle for the past twenty years.

DR. ABNER J. GREENSTREET of Seattle, Wash., died January 1, aged 76. He graduated from George Washington University School of Medicine, Washington, D. C., in 1900. He took two years postgraduate study in Europe and came to Seattle in 1902. He was the first president of Puget Sound Academy of Ophthalmology and Otolaryngology.

DR. HARRY B. PRATT of Yakima, Wash., died December 22, aged 63. He received his medical education in Syracuse University College of Medicine, graduating in 1903.

DR. JAMES L. HUTCHINSON of Tacoma, Wash., died January 9, aged 62 from a heart attack. He was born August 9, 1877, at Oswego, New York. He received his premedical education in his home city and his medical education at University of Buffalo School of Medicine, graduating in 1901. He came to Tacoma in 1906 and practiced eye, ear, nose, and throat almost continuously to the time of his death.

SOCIETY MEETINGS

COWLITZ COUNTY MEDICAL SOCIETY

Pres., C. J. Hoffman; Secty., L. S. Roach

Regular meeting of Cowlitz County Medical Society was held at Hotel Monticello, Longview, January 17. Dinner preceded the session. New members admitted to the Society were George Emery of Castle Rock, John Nelson of Longview, and V. Ballinger of Cathlamet.

Paper of the evening was read by Homer P. Rush, professor of medicine at University of Oregon Medical School, who discussed "Action and Uses of Sulfanilamide."

Woman's Auxiliary met at Hotel Monticello at the same

time. Nurses of Cowlitz General Hospital were entertained at dinner. Mrs. A. F. Scott reviewed "The Gentle People," by Irving Shaw.

GRAYS HARBOR COUNTY MEDICAL SOCIETY

Pres., M. F. Fuller; Secty., A. W. Riedesel

Regular meeting of Grays Harbor County Medical Society was held at the Morck Hotel, Aberdeen, January 17. The following new officers assumed their duty at this meeting: M. F. Fuller of Montesano, president; L. P. Anderson of Elma, vice-president; A. W. Riedesel of Aberdeen, secretary-treasurer. President-elect is F. N. Berken of Aberdeen.

The meeting was addressed by C. P. Larson, pathologist of Tacoma General Hospital, who discussed results of recent original research on "Thrombosis, Trichina Infestation," as found in routine autopsies.

LEWIS COUNTY MEDICAL SOCIETY

Pres., A. T. Lukins; Secty., Rush Banks

Regular meeting of the Lewis County Medical Society was held at Lewis-Clark Hotel, Centralia, January 8.

The following officers were elected: M. Couperus of Chehalis, president; E. D. Taylor of Centralia, vice-president; Rush Banks of Centralia, secretary-treasurer. The meeting was addressed by Carl F. Wagoner of Seattle who read a paper on "Allergy and the Common Cold."

SNOHOMISH COUNTY MEDICAL SOCIETY

Pres., W. J. Wagner; Secty., O. W. Anderson

January meeting of Snohomish County Medical Society was held at Everett January 4. It was addressed by Walter Voegtlin of Seattle who discussed "Conditioned Reflex Treatment of Alcoholism." His talk was followed by colored motion pictures demonstrating the treatment.

SPOKANE COUNTY MEDICAL SOCIETY

Pres., A. E. Lien; Secty., Asa Seeds

Annual meeting and banquet of Spokane County Medical Society was held at the Silver Grill, Spokane, January 15. Eighty members were in attendance.

William H. Tousey was elected president, Norman Brown, vice-president, and Asa E. Seeds, secretary. All trustees were reelected.

KING COUNTY MEDICAL SOCIETY

Pres., H. E. Coe; Secty., David Metheny

King County Medical Society held a regular meeting January 8, at 8:15 p. m. in the auditorium of Medical-Dental Building, Seattle, president H. E. Coe presiding. C. B. Qualheim, M. J. Schultz and R. E. Stewart were elected to membership. Membership applications were read from A. R. Altose, S. M. Billington, R. B. Hearne, W. C. Knudson, C. E. McArthur, R. B. Miller, K. E. Norris, R. J. J. Tipler, R. H. Williams and E. J. Wollenweber.

V. W. Spickard, secretary of the State Medical Association, read a report on the Wagner bill. Annual reports of thirteen committees were read by the chairman of each. Herbert E. Coe read a president's report, outlining various activities of the state during the past year. President M. S. Jared took the chair. The following officers were elected

for the ensuing year: President-elect, I. A. Weichbrodt; secretary-treasurer, David Metheny; trustees, H. E. Coe, W. B. Seelye and J. H. Berge; delegates to annual state meeting, H. E. Coe, F. H. Wanamaker, R. H. Loe, B. T. King, C. C. Goss, E. A. Nixon, J. W. Baker, E. W. Rawson, E. W. Young; alternates, A. G. Friend and J. W. Geehan.

WOMAN'S AUXILIARY

MIDYEAR MEETING

Seattle, Washington, January 24, 1940.

The midyear board meeting of state auxiliary officers will be held February 16 at Winthrop Hotel, Tacoma. Mrs. L. S. Roach, state president, will preside, and all state officers will give comprehensive reports of what they have accomplished so far. County presidents are also cordially invited to attend this meeting, and they will have an opportunity for closer contact with state and national organizations. It is rumored that Mrs. Rollo K. Packard, National president, will be present, and we are anxiously anticipating her visit.

Cowlitz County Auxiliary has not been mentioned in this column since last spring, but that has not meant they are not meeting regularly. In October, at their dinner meeting, their Public Relations chairman, Mrs. Justin McCarthy, presented an address by Mrs. J. L. Norris, on "Facts About Health Insurance," and the Wagner Health Bill was the subject of discussion by Mrs. A. F. Birbeck, legislative chairman, at the November program. Mrs. L. S. Roach, State president, reviewed the 1939 state convention. *Hygeia* was foremost on the December program and Mrs. P. H. Henderson, *Hygeia* chairman, reported a number of new subscriptions.

Although there is no meeting of Washington State Legislature this year, our legislative committees are ever active, enlightening the public and disseminating the right sort of information about medical care. Mrs. Emmett L. Calhoun, State Legislative chairman, has prepared an article on this subject, and I urge every doctor's wife in Washington to become familiar with the facts contained therein.

MRS. SOUREN H. TASHIAN,
Publicity Chairman.

IDAHO

FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPTEMBER 11-14

STATE ASSOCIATION ACTIVITIES

ANNUAL MEETING AT SUN VALLEY

All members of Idaho State Medical Association know that the next annual meeting will be held at Sun Valley, September 11-14. As usual the program will consist of a series of postgraduate lectures delivered this year by men from the faculty of University of Iowa Medical School.

The following speakers will constitute the faculty for the course of lectures: E. M. MacEwen, Dean of Medical School, Professor of Anatomy; C. E. Van Epps, Professor of Neurology; Fred M. Smith, Professor of Theory and Practical Medicine; N. G. Alcock, Professor of Genitourinary Surgery; Arthur Steindler, Professor of Orthopedic Surgery.

FIFTY DOLLARS JONES AWARD

Dr. A. C. Jones of Boise offers an award of fifty dollars to members of Idaho State Medical Association for the best paper presented before a local society or the state association. This is a prize worth working for. It is offered by Dr. Jones to encourage this kind of work on the part of interested members. It is requested that authors give copies of their papers to the secretaries of the societies before which they are read. As many as possible are urged to take advantage of this opportunity. For further information regarding the details of this contest, apply to Dr. A. C. Jones of Boise, or Dr. J. N. Davis of Twin Falls, secretary of the State Association.

REPRESENTATIVES AT CONFERENCE

George C. Halley of Twin Falls was representative for Idaho State Medical Association at the second annual con-

gress on Industrial Health held January 15, Palmer House, Chicago.

F. B. Jeppesen of Boise will represent the Idaho State Medical Association at the following conferences:

1. Thirteenth Annual Meeting of the Northwest Regional Conference (National Conference on Medical Service), Feb. 11-13, Palmer House, Chicago.

2. Thirty-sixth Annual Congress of the Council on Medical Education and Hospitals, Feb. 12-13, Palmer House, Chicago.

3. Federation of State Medical Boards of the United States, Feb. 12-13, Palmer House, Chicago.

The State Association is proud that we have representation at these meetings and of the men who represent us there.

MEDICAL NOTES

HOSPITAL CONSTRUCTION STARTED. Ground was broken January 2 for the new \$80,000 hospital at Moscow. The new structure will have twenty-five beds and a modern surgery and laboratory.

HOSPITAL EQUIPS. Bids for equipment of the new Grangeville Hospital were opened late in December and approximately \$10,000 in equipment contracts were let. Installation is to be completed in February.

SOCIETY MEETINGS

NORTH IDAHO DISTRICT MEDICAL SOCIETY

Pres., J. E. Baldeck; Secty., J. E. Carrow

December meeting of the North Idaho District Medical Society was held at the Lewis-Clark Hotel, Lewiston, December 20. Speaker of the evening was William Myhre of Spokane who discussed "The Abnormal Heart."

SOUTH SIDE MEDICAL SOCIETY

Pres., L. M. Kelly; Secty., H. L. Stowe

Annual meeting of South Side Medical Society was held at the Park Hotel, Twin Falls, January 11. Dinner preceded the business and scientific session.

C. H. Gavin of Eden, formerly of Rigby, was admitted to membership. Election of officers resulted as follows: President, H. E. Lamb of Twin Falls; vice-president, G. T. Parkinson of Buhl; secretary, H. L. Stowe of Twin Falls. G. C. Halley was appointed representative of the Society to the State Cancer Committee. Scientific session of the meeting was addressed by J. W. Creed of Filer who discussed "Vitamins and Their Chemistry."

SOUTHWESTERN IDAHO DISTRICT MEDICAL SOCIETY

Pres., M. B. Shaw; Secty., W. B. Handford

Winter meeting of Southwestern Idaho District Medical Society was held at Boise, December 15. The program included a paper on "Proctologic Problems of General Interest" by D. R. Laird of Portland, Oregon, and "Excretory Urography in Relation to Management of Urinary Tract Infections" by Thomas Montgomery of Portland.

LOCATIONS. Ward Peterson has opened offices in the First National Bank Bldg., Boise, for practice of pediatrics.

The association of Ralph Falk and O. F. Swindell of Boise has been dissolved, effective January 1. Dr. Falk continues to maintain offices in the First National Bank Bldg. associated with Robert S. Smith. Dr. Swindell has opened offices in the Eastman Bldg.

BOOK REVIEWS

MEDICINE OF THE EAR. Edwin Prince Fowler, Jr., M.D., Sc.D., Editor, Assistant Clinical Professor of Otolaryngology, College of Physicians and Surgeons, Columbia University, etc. 590 pp. \$12.00. Thomas Nelson and Sons, New York, 1939.

This excellent work provides a welcome escape from the predominantly surgical viewpoint of most American texts on otology. Its essays are personal contributions by sixteen eminent authorities, all well documented by recent periodical references. The physiology of hearing and equilibrium is admirably explained and illustrated.

Medical management of disorders of the external ear, middle ear and eustachian tube includes treatment of many causes of deafness. Neurologic and osteogenetic elements in deafness receive thoroughly adequate explanation, including chapters on audiometry and fitting of hearing aids. Deafness from drugs or chemical poisons and trauma, of considerable medicolegal importance, are excellently discussed. Consideration of disease of the vestibular system, of the effects of otitic meningitis and aural allergy lead up to three admirable contributions on deaf mutism, management of the deaf and training of the deaf-blind. Many of these chapters will be valuable sources of information for lay individuals and educators interested in the welfare of the deaf. Each division carries new and useful illustrations, recapitulating necessary anatomy and pathology as needed.

R. A. FENTON

ELECTROCARDIOGRAPHIC PATTERNS. Their Diagnostic and Clinical Significance. By Arlie R. Barnes, M.D., Mayo Clinic, Rochester, Minnesota. 197 pp., \$5. Charles C. Thomas, Springfield, Ill., 1940.

This is probably the most accurate contribution to date to electrocardiographic knowledge. The first three chapters are devoted to myocardial infarction as this subject is of first importance in electrocardiography. The next three chapters show patterns obtained in ventricular strain, one in pericarditis, one showing effects of drugs, metabolic disorders and infection. The last chapter is devoted to observation relative to precordial leads. The appearance of this book is most timely amid the present state of electrocardiographic confusion. It does not pretend to utter the final word, and emphasizes our lack of complete understanding

of many patterns. It will be, however, one of the best aids available at present in arriving at a diagnosis of electrocardiographic tracings.

P. V. VONPHUL

THE DYSENTERIC DISORDERS. The Diagnosis and Treatment of Dysentery, Sprue, Colitis and other Diarrheas in General Practice, by Phillip Manson, B.A.H.R., C.M.G., D.S.O., M.D., F.R.C.P., Senior Physician to the Hospital for Tropical Diseases, London, etc. With 9 Color and 14 Black and White Plates and 106 Illustrations in the Text. 613 pp. \$8. The Williams & Wilkins Co., Baltimore, 1939.

The author is particularly well qualified to write a book on the dysenteries that should be of value to us who practice in a temperate zone because he has a viewpoint of one who practices in London plus a vast experience with material derived from tropical regions of the British Empire. There is a comprehensive account of amebiasis. Of particular interest is the differential diagnosis of liver abscess illustrated by a discussion of cases of ascending pyelophlebitis, carcinoma of the liver, suppurative cholangitis, subphrenic abscess, suppurating hydatid cysts, empyema of the gallbladder as well as amebic abscess.

The various forms of sprue and fatty diarrhea are discussed in relation to differential diagnosis and the various deficiency states, notably vitamin and mineral. Treatment as presented in general is good in principle but inclined to absurdities of detail in regard to diet, recipes, proprietaries, prescriptions, exercise programs, etc. A large appendix is devoted to laboratory methods and parasitology. Epidemiology in relation to discovery and influence of dysenteries on wars and colonial campaigns of the British is very interesting.

R. F. FOSTER.

A MANUAL FOR DIABETIC PATIENTS. By W. D. Sansum, M.D., Chief of Staff of The Sansum Clinic, etc.; Alfred E. Koehler, Ph.D., M.D., Member of the Staff of The Sansum Clinic, etc., and Ruth Bowden, B.S., Dietitian of The Sansum Clinic, Santa Barbara, California. 227 pp., \$3.25. The Macmillan Company, New York, 1939.

The language of this manual is simple, the text well arranged, the statements adhere closely to facts. Present-day knowledge of this subject is presented for the lay reader and physician in a manner most widely accepted by authorities and most generally taught in diabetic clinics

throughout America. Caution is wisely sounded regarding careful diagnosis, with emphasis on the danger of overlooking or ignoring mild diabetes, as well as the injustice of diagnosing on urine findings alone without adequate and appropriate blood studies. Although diet, insulin and exercise are the three important factors in management, attention is given to general measures which add so greatly to success of the diabetic regime. The book contains an excellent discussion of care of the surgical diabetic and conditions in which pregnancy should be permitted.

Part two explains the arithmetic of diet. Food tables are simple and easy to use. Substitution is made clear, and the chapter on menu planning is particularly fine. This manual is one of the best with which the reviewer is familiar and is a desirable addition to previous contributions to the welfare of the diabetic. L. J. PALMER

PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE. A University of Toronto Text in Applied Physiology, by Charles Herbert Best, M.A., M.D., S.B. (Lond.), F.R.S., F.R.C.P. (Canada), Professor and Head of Department of Physiology, Research Associate in the Banting-Best Department of Medical Research, etc., University of Toronto, and Norman Burke Taylor, M.D., F.R.S. (Canada), F.R.C.S. (Edin.), F.R.C.P. (Canada), M.R.C.S. (Eng.), F.R.C.P. (Lond.), Professor of Physiology, University of Toronto. Second Edition, 1872 pp. \$10.00. The Williams & Wilkins Co., Baltimore, 1939.

This book is a marvelous storehouse of information for both the medical student and clinician, written by distinguished physiologists with a keen sense for the practical application of physiologic facts and theories. It is an applied physiology. No words or space is wasted; the size of the book indicates the comprehensiveness of the material covered. There are nine sections as follows: The Blood and Lymph, the Circulation of the Blood, Respiration, the Excretion of Urine, Digestion, Metabolism and Nutrition, the Ductless Glands or Endocrines, the Nervous System, the Special Senses. Along with the discussion of normal physiology of these systems, there is constant allusion to morbid physiology and suggestitons as to the aid physiologic principles offer in the bedside management of disease. To the medical student it is a text which stimulates him to secure a lasting knowledge of physiology because the clinical application is made clear to him. To the clinician it is a book which refreshes and brings up to date his physiology, through linking physiologic principles to the clinical experience he has had. C. C. GOSS.

SEXUAL PATHOLOGY. A study of Derangements of the Sexual Instinct. By Magnus Hirschfeld, M.D. Former President, World League for Sexual Reform, etc. Pp. 368. \$2.95. Emerson Books, Inc., New York, 1940.

It has been some years since the reviewer read the Krafft-Ebing work, but there was the impression which has persisted throughout the years that information of such character was sexual smut, covered with a salad dressing of medical terminology. The jacket of this book carries full-some puffs from several reputable and well-known publications. Is *The Nation* an authority in stating: "There is probably no better introduction to contemporary knowledge and contemporary theories about the physiology, psychology and hygiene of sex?"

A considerable part of the text is given over to a repetitious description of various types and kinds of fetishism. The unfortunate psychopath, whose erotic impulses are

aroused only by snipping locks of hair streaming over the female shoulder, must be in considerably quandry for a victim. The reader's heart will be wrenched by the story of a twenty-one-year-old who had a strong sexual reaction toward rubber air cushions. The naivete of the case reported is at times touching. "There are men who will follow women for long distances in bad weather in the hope that they will gather up their dresses and thus expose their calves to the greedy gaze of their followers."

If one is unable to view this volume other than a rehashed Krafft-Ebing, do not let him be deterred, for Bertram Russell is quoted as saying, "few books on the subject of sex can be so confidently recommended to all and sundry as this truly admirable volume." F. J. CLANCY

THE GENUINE WORKS OF HIPPOCRATES. Translated from the Greek by Francis Adams, LL.D., Surgeon. 384 pp., \$3. The Williams & Wilkins Co., Baltimore, 1939.

Hippocrates was supposed to have lived and practiced on the island of Cos in the fifth century B. C. His name and fame have steadily grown through the years, although little actual fact exists in proof of the authenticity of the many writings attributed to him. It matters little, however, who first put down the astute observations and conclusions for which he is given credit, for even today the descriptions of disease and directions for care of the sick are often startling in their timeliness.

The famed description of the dying man, which has come down through the centuries, appears in the Book of Prognostics. It could hardly be improved today. Reaction of the public to the profession seems to have been the same twenty-four hundred years ago as today as witness, "for people rather admire what is new, although they do not know whether it be proper or not . . . and what is strange, they prefer it to what is obvious." Nothing better has been devised as yet for the follow up care of fractures than described by Hippocrates when he says, "and at each time the bandages are taken off much hot water is to be used."

All the writings attributed to Hippocrates are included in this volume with a division established by the translator, into those undoubtedly authentic and those which may have been written by others. The work is, of course, authoritative and it is of absorbing interest.

H. L. HARTLEY.

TREATMENT IN GENERAL PRACTICE. The Management of Some Major Medical Disorders, Vols. I and II. Preface to First American Edition by Reginald Fitz. Little, Brown & Co., Boston, 1939.

This is a two volume series of articles on therapeutics, written by the foremost clinical teachers in Great Britain. The first volume deals with treatment of acute infectious diseases and cardiovascular diseases. The second, with treatment of the more chronic conditions, such as kidney, metabolic diseases, blood dyscrasias, arthritis, etc.

These articles are written in a detailed and dogmatic manner, yet with a simple style that allows interesting reading. In general, the therapy follows similarly in trend to our own concepts, though frequent reference to the British Pharmacopeia and proprietary drugs may confuse American readers. It cannot supplant our American texts, but because it crystallizes the therapeutics of the great English clinicians, these books offer a useful adjunct to physicians.

B. T. FITZMAURICE.

PRINCIPLES AND PRACTICE OF AVIATION MEDICINE. By Harry G. Armstrong, B.S., M.D., Capt. Medical Corps, U.S. Army, etc. 496 pp., \$6.50. The Williams & Wilkins Co., Baltimore, 1939.

Aviation medicine as a strict specialty is nonexistent, since it embraces every other specialty within its sphere. The author not only calls on general medicine, but also utilizes rules, regulations and standards of physical requirements as set by the Army, Navy and Civil Aeronautics authorities to the extent of about 40 to 50 per cent of this volume. The chapters on noxious fluids and gases in aviation, the effect of flight on the ear, air factors and flight, aerial equilibration and orientation, air sickness, anoxia in aviation and speed and acceleration are admirable and in a great degree represent a genuine contribution to the practice of aviation medicine in that they should stimulate further study on these matters. The volume will receive extensive use by physicians concerned with the aviation and the special conditions to which he is subject.

The author brings to the fore, if he does not actually contribute certain factors, a good number which had already been known. Some of these become manifest in increasingly observable instances in the aviator. Also he adds a certain number of deductions from his own experiments and experiences. Whether or not all these findings will withstand the critical eye of the future investigators remains to be seen. Nevertheless, it represents a genuine contribution. The author succeeds in making his volume coherent, and in well dividing and subdividing his various subjects.

CHARLES FIRESTONE.

STERILITY AND IMPAIRED FERTILITY. Pathogenesis, Diagnosis and Treatment. By Cedric Lane-Roherts, M.S., F.R.C.S., F.R.C.O.G., Gynecological Surgeon, Royal Northern Hospital, etc., Albert Sharman, M.D., M.R.C.O.G., Assistant Surgeon, Royal Samaritan Hospital for Women, Glasgow, Kenneth Walker, F.R.C.S., Surgeon to Genitourinary Dept., Royal Northern Hospital, B. P. Wiesner, D.Sc., P.N.D., F.R.S.E., Consulting Biologist, Royal Northern Hospital. 419 pp. \$5.50. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York, 1939.

Much emphasis and space in this volume is allotted to the most common and troublesome types of female sterility, namely, functional sterility. The theory and rationale, backgrounding the use of various endocrine preparations, are well elaborated. A large section is devoted to male sterility. A moderating thread of thought weaves through this section concerning the alleged seriousness of various types of seminal abnormalities.

Since much of the laboratory work essential to ideal studies of the sterility problem is beyond the reach of the average practitioner and the average commercial laboratory, the section devoted to technic in these procedures is of little value in our offices. The book should be read, however, by every one who attempts seriously to correct sterility problems.

D. J. THORP

AN INTRODUCTION TO MEDICAL MYCOLOGY. By George M. Lewis, M.D., Assistant Attending Dermatologist, New York Post-Graduate Medical School and Hospital, Columbia University, and Mary E. Hopper, M.S., Assistant in Mycology, Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital, Columbia University. 315 pp., \$5.50. The Year Book Publishers, Chicago, 1939.

This book is divided into two parts, clinical and laboratory. Under first part are taken up methods of diagnosis: direct examination of freshly made slides, cultural

methods, diagnosis by filtered ultraviolet radiation and other methods. Immunologic and allergic aspects are explained. Clinical aspects of superficial mycoses are considered: tinea capitis, tinea circinata, dermatophytosis, etc. Deep mycoses are treated next: actinomycosis, blastomycosis, coccidioidal granuloma and others. The chapter on treatment is particularly clear and instructive.

The second part, dealing with laboratory aspects, includes cultural methods, microscopic features and differential laboratory diagnoses of common fungi. Simple procedures are given for isolation and identification of any organism suspected of being a fungus. Inclusion of numerous and excellent illustrations adds much to the presentation, interest and diagnostic value. This volume is highly recommended, not only to the dermatologist but to the general practitioner and internist as well.

B. F. BRUENNER

SCLEROSING THERAPY. The Injection Treatment of Hernia, Hydrocele, Varicose Veins and Hemorrhoids. Edited by Frank C. Yeomans, M.D., F.A.C.S., M.R.S.M. (London, Hon.), Professor of Proctology and Attending Surgeon, New York Polytechnic Medical School and Hospital, etc. With 185 Illustrations on 117 Figures. 335 pp., \$6. The Williams and Wilkins Co., Baltimore, 1939.

Any physician employing sclerosing therapy for injection treatment of hernia, hydrocele, varicose veins and hemorrhoids will find this a most valuable reference book. Too often the merits of treatment by injection have been emphasized, but in this text defects of treatment warn the operator of complications and pitfalls which may be expected. Technic of injection has been clearly explained and illustrated with a large number of drawings and diagrams, so that nothing is left to the imagination of the reader.

In the section on "Injection Treatment of Hernia," the author has reviewed the experimental work which has been done with various types of solutions. The selection of cases, technic of injection and particularly the fitting and use of trusses are well described.

Injection treatment of varicose veins summarizes the achievement of many workers in this field. Ligation of the internal saphenous vein as a preliminary to injection treatment of varicose veins of the lower extremities deserves special consideration. This volume would be worth having for any one section alone, but descriptions of sclerosing therapy in its four most widely used forms, so well described and illustrated, should prove most helpful to the practitioner.

E. A. NIXON

INTERNATIONAL CLINICS. Volume IV, New Series Two. Edited by George Morris Piersol, M.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia, Pa. 339 pp., \$3.00. J. B. Lippincott Company, Philadelphia, Montreal, New York, 1939.

This volume contains twenty original contributions by well known members of the profession, dealing with important, ever present topics. They contain the latest information on the diseases under consideration, and therefore are well worthwhile. There is a paper on sulfapyridine in pneumococcal, streptococcal and staphylococcal infections, and another discussing treatment of pneumococcus pneumonias. Surgical complications of the latter conditions are also considered. Angina pectoris, jaundice during anti-syphilitic treatment, ascites and several other equally important conditions are discussed in separate papers.

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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The facilities of the institution are available to physicians who wish to use them for the care of their private patients.

THE VITAMINS. A Symposium Arranged Under the Auspices of the Council on Pharmacy and Chemistry and the Council on Foods of the American Medical Association. 637 pp., \$1.50. American Medical Association, Chicago, 1939.

So much has been written concerning vitamins, and their number has increased so prodigiously, that the average practitioner is in somewhat of a haze in an attempt to determine their relative value and applications. Therefore, this volume is welcome as a clarification of this rapidly expanding subject. Thirty contributors in this volume deal with many phases of vitamins, comprised in thirty-one chapters. As evidence of the expansion of this subject, five chapters are devoted to various considerations of vitamin A, six being devoted respectively to vitamins B, C and D. The chemistry, composition and therapeutic applications of the different vitamins are presented in detail. No more authoritative volume treating of vitamins is available. It should provide much sought information.

BACTERIOLOGY. By William W. Ford, M.D., D.P.H., Emeritus Professor of Bacteriology, School of Hygiene and Public Health, Johns Hopkins University. With 8 Illustrations. 207 pp., \$2.50. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York, 1939.

This is one of the Clio Medica pocket editions featuring the history and development of bacteriology. Anyone interested in this branch of medical practice will be delighted to read this book. It features not only the great men of bacteriology, but discusses the development of bacterial antitoxins, immunology and other features of this medical specialty.

ACCEPTED FOODS AND THEIR NUTRITIONAL SIGNIFICANCE. 492 pp., \$2.00. American Medical Association, Chicago, 1939.

This volume contains descriptions of products accepted by the Council on Foods of the American Medical Association on September 1, 1939. It offers a mine of information concerning the composition, preparation and nutritive value of a large number of foods which have been surveyed by the Council. This information is authoritative and should be of practical value to everyone seeking information on nutritional virtues of food products. It should appeal equally to the physician and the layman.

FUNDAMENTALS OF BIOCHEMISTRY in Relation to Human Physiology. By T. R. Parsons, B.Sc. (Lond.), M.A., (Cantab.), Sidney Sussex College, Cambridge. Sixth Edition. 461 pp., \$3.00. The Williams & Wilkins Co., Baltimore, 1939.

This well known volume offers a readable and easily understood consideration of the principles of biochemistry dealing with digestion, metabolism of proteins and fats, chemistry and carbohydrates and allied principles. Special attention is paid to applications of physical chemistry.

EPIDEMIOLOGY IN COUNTRY PRACTICE. By William Norman Pickles, M.D. (Lond.), Medical Officer of Health, Aysgarth Rural District. 110 pp., \$2.50. The Williams & Wilkins Co., Baltimore, 1939.

This book contains the experiences of an English country practitioner in the treatment of epidemic diseases. It is an interesting account of the methods of dealing with some common diseases from a British standpoint. Some diagnoses are not commonly used on this side of the ocean, such as Sonne dysentery, epidemic catarrhal jaundice, epidemic myalgia. It is enlightening to compare our methods of diagnosis and treatment with those of our English cousins.

HANDBOOK OF SKIN DISEASES. By Leon Hugh Warren, B.A., M.D., M.Sc. (Med.), formerly Instructor in Dermatology and Syphilology at the School of Medicine, Temple University, etc. 321 pp., \$3.50. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York, 1940.

This is a handy volume presenting in condensed form much information concerning skin diseases. The first part discusses general principles of therapy. Following this is a synopsis of skin diseases which are taken up alphabetically, beginning with acanthosis nigricans and ending with xeroderma pigmentosum. With few words each of these presents etymology, synonyms, essential nature, diagnosis and treatment.

WHAT IT MEANS TO BE A DOCTOR. By Dwight Anderson. 87 pp., \$1.00. Medical Society of the State of New York, 1939.

The author offers suggestions which should interest the embryo physician, speculates on why one should study medicine, offers experiences as intern and as practitioner, concluding with discussion on the doctor of tomorrow.

POPULATION, RACE AND EUGENICS. By Morris Siegel, M.D. 206 pp., \$3.00. Published by the Author, Hamilton, Ontario, 1939.

This book is inspired by the declining birth rate, the causes of which are discussed, including birth control, late marriages and other factors. The author's views are given on rational marriage and methods of producing it. There is a discussion of the effects on the population of the feeble minded, mental disorders, epilepsy, with causes for each and suggestive methods for their restriction.

VIRUSES AND VIRUS DISEASES. By Thomas M. Rivers, M.D., Sc.D., Director, Hospital of the Rockefeller Institute, New York City. 133 pp., \$2.50. Stanford University Press, Stanford University, California, 1939.

These Lane medical lectures supply information to the questions: What is a virus? What is a virus disease? There are discussions of pathology of virus diseases, their immunologic and serologic phenomena, their nature, followed by treatment and prevention of virus diseases. There are many details and specifications under these different titles which offer worthwhile reading to anyone seeking information on this subject so important to the practice of medicine. Especially significant is the section on treatment and prevention.

ACCURACY OF MEDICAL NEWS INCREASING

"Only those closely associated with modern trends in publication are familiar with the vast improvement that has been taking place relative to the publication of news of scientific advances," *The Journal of the American Medical Association* for Jan. 20 declares. "A bulletin recently issued by the United Press to its bureau managers and division managers is worthy of quotation. It reads:

"It seems advisable to restate our traditional policy concerning handling stories of 'cures' or other medical developments.

"This policy, which dates back more than twenty years, is never to call anything a cure, or in fact give any publicity to any remedy of any description, without a thorough investigation.

"This rule is now being strengthened by the following: 'Under no circumstances put any store on the leased wire about a remedy. If the bureau manager is convinced that the story has merit, he should overhead it to New York for investigation and consideration there.'"

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EDITORIALS

IMPORTANCE OF STATE SECTIONS

Special attention of readers is called to subjects discussed under State Sections, pertaining to each of the state associations. Everyone is advised to read these each month in order that he may be posted on activities and matters of importance concerning his own organization.

SUPPORT NATIONAL PHYSICIANS COMMITTEE

All physicians have received literature from the National Physicians Committee for the Extension of Medical Service. Some have interested themselves in the purposes of this Committee and have contributed to the necessary fund for its maintenance. Recently the brochure, *Minutemen of American Medicine*, has been mailed to all physicians. Its purpose by means of questions and answers is to inform the profession of our country what the National Physicians Committee is attempting to accomplish and to promote socialized medicine in a manner that will benefit the people of the land without submitting them to political domination and governmental bureaucracy. Also it aims to preserve the independence and usefulness of the medical profession.

In addition to imparting this information to physicians, it is necessary to acquaint the public with the fallacy of much of the propaganda behind socialized medicine. This Committee has issued a number of pamphlets, the reading of which will convey correct information to the public. One of the latest is *Priceless Heritage*, "a short outline of the principles that govern personal security and of the factors that have produced the highest level of individual and public health that the world has ever known." It is recommended that physicians obtain supplies of this pamphlet which may be enclosed in monthly statements to patients, who will pay attention to them, coming from their own physicians. *Priceless Heritage* may be obtained from National Physicians Committee for the Extension of Medical Service, 700 N. Michigan Avenue, Chicago, Illinois.

This journal goes to press the first day of the month. Material for publication should be received by the 25th of the preceding month.



Reprints will be furnished by the printer according to the schedule of prices which accompanies the galley proofs submitted to the author. The order for reprints should accompany the returned galley proofs. The printer holds the type until the first of the following month.



Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

MORE PROPAGANDA FOR NATIONAL HEALTH PROGRAM

The Journal of the American Medical Association, issue of February 3, reproduces, as far as they relate to health, the recommendations of the American Youth Commission of the American Council on Education. It also makes some pertinent editorial comment. To quote in part from the health recommendations of the American Youth Commission: "The facilities now available to young people are wholly inadequate to insure that the resources of modern science will be applied to the highest development of their health and physical fitness. These facilities are inadequate for health instruction and physical examination as well as for remedial care. A recent survey made by the United States office of Education disclosed that only 10 per cent of college students had ever had a course in hygiene in either secondary school or college. Few secondary schools give routine physical examinations, * * *

"Physical recreation is universally recognized as a vitally important means of promoting good health. * * * But school athletic programs are still largely devoted to intensive training of the few who are least in need of physical improvement. * * *

Of the sixteen members composing the American Youth Commission, seven are professional educators, and by reason of their national prominence and position are to a great extent responsible for the educational pattern complained of so forcibly in the "program of action" by this Commission.

In many states school attendance is compulsory between the ages of seven and eighteen. If teaching hygiene and physical education has been neglected, responsibility can be laid in the lap of the professional educators who have arrogated to themselves by statute the power to supervise the curriculum for youth during his formative years.

It does not seem to have occurred to the professional educators that part of the school funds now employed in many alleged educational activities might be diverted to meet the demands of the American Youth Commission. Teaching physical education and providing adequate athletic equipment and facilities for athletic exercise are an educational and not a medical problem. It would be a relatively simple matter for city, county or state boards of education to add one or more physicians to their respective faculties. Except in rare instances, the medical profession has been frozen out of any participation in shaping academic programs. The published list of the American Youth Commission does not contain the name of a physician.

There is no suggestion in the recommendations that educators might be responsible for the inadequacies upon which the problems for action are based. Most adroitly, the short-comings of the educational system are by some incomprehensible ledgermain made the excuse for a "nationwide public health program", as indicated in the statement: "In order to be effective in a reasonable time, the program must be on a scale never before attempted in this country. A national health program should be directed to the needs of citizens of all ages, * * *

The figures of the National Health Survey that youth, who were disabled for a week or more during 1936 by tuberculosis, pneumonia, appendicitis or childbirth, failed to be hospitalized to the extent of 30 per cent would seem to indicate that 70 per cent of youth having the aforementioned conditions were hospitalized, and there is no evidence presented that the unhospitalized 30 per cent should have been so treated. *The Journal* sums up the report adequately when it states: "It will be observed that this report is essentially propaganda for a national health program and that the statement follows the pattern of some of the other pieces of propaganda that have emanated from that small group in Washington which has been endeavoring now for some years to fix on the nation its own concept which demands revolution in medical care * * *."

HORMONAL FACTS AND FANCIES

A recent survey enumerated twenty-three different gynecologic conditions wherein hormone preparations are employed. In our eagerness to provide relief for female troubles of various sorts we hopefully read each new report in the literature, embracing the use of theelin, progynon, emmenin, testosterone, luteal hormone, etc. The desk piles high with a deluge of reprints and brochures from the pharmaceutical houses, reminding one of the final stack at the nether end of a newspaper plant's folding machine.

This morning an article speaks intimately of mouse units; this afternoon, between patients, we will read a paper which tosses cervical units around with a familiarity which breeds contempt; tonight we will bed ourselves with intimate references to Corner units, or perhaps international units. Finally we may sleep in the throes of a rarebit dream such as a harried school-boy might suffer, wrestling with mathematical incongruities such as this: If an ampoule containing 2000 rat units of theelin says, "keep in a cool place," how many international

units will remain, if the package is left on the radiator for seventy-two hours?

There is no doubt that much of the usage of hormones unintentionally borders on quackery. We need to commune with ourselves in each impulse to try this or that preparation. Before administering such medication we should ask ourselves two questions; first, have I actually established the need for this preparation in this patient or do I just hear the still, small voice of yesterday's detail man; second, do I actually know what dosage I am using.

Endocrinology is a fascinating field of possibilities, in no small part because its potentialities are partly shrouded in mystery. It is a frontier, full of adventure. But the internist would never tell his diabetic patient to "just take a syringe-full of insulin every so often." Yet there is a sizeable number of young women throughout the United States who have mats of hair on their chests because of overzealous, ill-determined use of testosterone in treatment of dysmenorrhea. This is but one example of our uncertain knowledge of hormonal potentials.

Many men are employing the female sex hormones in the treatment of sterility without first making determinations of the patient's deficiencies or needs. How many cystic ovaries or atretic follicles thus contributed to continuance of sterility can never be known. It has been established by Rowlands in London that overdosage of corpus luteum extracts or gonadotropic hormone will frequently create hormonal antibodies in the patient's blood. Hence in some instances the use of these endocrines over prolonged periods renders the patient less likely to conceive than ever before.

We are prone to forget that stimulation of the ovary does not occur when we use endocrines and that such use is purely substitution therapy. Likewise, we seldom see mentioned any more the fact that injudicious uses of the estrogens may inhibit the pituitary function which in turn may cause more marked ovarian hypoactivity than existed prior to hormone injection. Conversely, Clauberg's shock technic in treating absence of ovulation will delight the man who goes in for heavy doses of parenteral medication, for he advocates 50,000 to 100,000 units (international, please) of estrogen, midmenstrually in a single dose.

But that brings us back to the beginning. If we know that we are dealing with a case of anovulatory menstruation, then go ahead. If we have established the fact by careful studies that a patient has too little progesterone production (the endometrium will reveal it), then we may treat her legitimately with definite dosage. What is more

practically important is that she will more surely be relieved of her symptoms, if the medication is controlled. There is real worth in the hormones just as there is in a dollar bill, but let us not have inflation due to ignorance of what stands behind the rational use of them. Let us commune with ourselves, ask those two questions. We shall then do no harm and our patients will be better satisfied. Confidentially, we shall command greater respect from the detail man.

OUR SMALLPOX DISGRACE

More than one hundred forty years ago Edward Jenner showed us how to control smallpox. He put in our hands a method which, if universally applied, would wipe the infection from the face of the earth. That we have not thus eliminated this totally unnecessary disease is a sad commentary on what we have, in happier times, called modern civilization. That we, here in the Northwest, have lagged behind the rest of the world in its control is little less than a disgrace.

Population of the states of Oregon, Washington and Idaho is approximately 2.5 per cent of that of the United States as a whole. *Yet in 1938 these three states had almost 15 per cent of the smallpox of the nation.* In the five years from 1934 to 1938 inclusive there were actually 1,896 cases in Oregon, 3,705 in Washington and 1,269 in Idaho¹.

It is conditions such as these which make health officers shudder since they know of and see the complete picture. They have placed on their doorstep the odious comparison with communities less afflicted. They feel the urge to demand campaigns by official agencies or even regulations making vaccination compulsory. Such is their obvious duty.

It is, however, no less the duty of every private practitioner to take a great deal of interest in this as well as other matters of public health. The medical profession has long established itself as guardian of the health of the public. The position implies certain very valuable privileges. It also carries many duties which at times reach the proportion of sacred obligations. One of these certainly is the elimination of so many needless cases of smallpox.

It is not too much to ask that every physician who delivers a baby should make it his business to see that the child is vaccinated against smallpox before it is one year of age. Certainly such measures should not be allowed to go until the child is ready for school, at which time the official agency will be forced to step into the picture. This is a matter which the medical profession itself should manage.

1. Statistics by Francis D. Rhoads, Washington State Department of Health.

ARSENATE OF LEAD AND THE FRUIT INDUSTRY

All residents of our Pacific Northwestern States are vitally interested directly or indirectly in the fruit industry. It is well known that a major portion of apples and pears grown in the United States are produced in this section. In order to preserve the fruit, it is necessary to spray the trees at certain periods in order to destroy parasites which are continually attracted by the growing fruit. Arsenate of lead has proven most effective in the destruction of certain of these pests. The Department of Agriculture has established a definite amount of this salt to be added to the solution sprayed on the trees.

As it is well known that arsenic and lead are poisonous when ingested in certain forms, the belief has been disseminated that arsenate of lead will also produce the ill effects of its two components. It has been thoroughly established, however, that arsenate of lead, in the limited amount normally found on apples and pears, is harmless when taken into the intestinal tract, owing to the fact that it is insoluble. This fact has been proven by administration to laboratory animals and farm stock. Human beings have also submitted themselves for tests. It is asserted that no deleterious results have been noted from any of these experiments. Yakima and Chelan counties of Washington are the largest county producers of apples in the country. Doctors practicing in these counties assert that they have never treated a case of poisoning due to the ingestion of arsenate of lead.

The Department of Agriculture, ever alert to protect the people from injurious foods, has on several occasions held up shipments of fruit in interstate commerce as well as that destined for foreign countries because of the alleged danger of contamination, despite detailed washing of the fruit in accordance with prescribed procedures. The Federal courts have rendered several decisions adverse to the Department, and in the only case which government appealed it lost.

The reason for this discussion is to elicit the support of the medical profession in assuring the public of the innocuous effect of arsenate of lead spraying. Adequate protection is afforded by systematic washing which effectively removes this preparation from the fruit. Patients can be assured that, even if some of the spray remains on the fruit, it will be harmless in the intestinal tract. It is to the interest of the medical profession to foster one of the greatest industries in our three states and to protect it against ill advised assaults.

SURGICAL AID TO CHINA

Within the last few years several requests have been made to surgeons of the United States asking contributions of surgical instruments and appliances for the needs of Chinese physicians. Another urgent appeal has recently been made for such contributions. Owing to scarcity and high prices in Hongkong, it is almost impossible to secure surgical instruments, dressings and hospital necessities.

This is not an appeal for money on the part of those interested in the welfare of needy Chinese, but it is hoped that some American physicians may be in a position to supply the need of surgical appliances. A man retiring from practice could not obtain more satisfaction in disposition of his equipment than donating it to this cause. Administrators of estates of deceased physicians might also contribute to this necessity. It is well known that inadequate returns are obtainable from the sale of used instruments, although they may be as useful as new for a prolonged period. Anyone having instruments available in response to this call may communicate with NORTHWEST MEDICINE, 225 Cobb Building, Seattle, or send contributions to Miss Blanche Singleton, 83 McAllister Street, San Francisco, California, who will see that they are shipped to China. This is a worthy request and will bring satisfaction to contributors.

PORTLAND'S DISASTER CAR

Whenever something new is introduced to the medical profession which is an outstanding advance over any similar equipment, it is worthy of comment and support. A recent notable construction is the "disaster car" built in Portland. It is handled by a six-man crew from the Fire Department and equipped to meet emergencies on the spot. Its equipment includes 1,000 separate items such as operating tables, sterilizer, sterilized gowns, gloves, bandages, and instruments, all ready for immediate use. As described by Gray,¹ it is a fully equipped hospital in miniature with all necessities for emergency demands.

This car was not devised by a physician but resulted from the interest of a Portland merchant who believed more adequate facilities were needed for emergency situations. Considerable space would be needed to enumerate all the different installations and gadgets set up in this car to meet all sorts of situations arising from fires, automobile and other accidents. Doubtless this aid to emergency work will be copied in other cities.

1. Gray, W. P.: Portland's "Disaster Car" Provides for Any Emergency. *Hospital Management*. 49: 14, Feb., 1940.

ORIGINAL ARTICLES

ICTERUS GRAVIS NEONATORUM*

J. B. BILDERBACK, M.D.

AND

MORRIS L. BRIDGEMAN, M.D.

PORTLAND, OREGON

Abt¹ deserves the distinction of having first called attention to this most interesting and often times tragic disease in 1916. He stated that Pfannenstiel gave its first detailed description in 1908. He reported several cases that had come under his personal experience and finished his contribution in the following manner: "These reports relate the occurrence of a rare disease in newborn children, characterized by progressive icterus occurring in successive pregnancies and of unknown origin. The disease nearly always terminates fatally, though one of my patients recovered after a most serious attack and with the most alarming symptoms."

Since this original paper many contributions have appeared on this disease. The clinical concept has grown and broadened and other clinical findings have been added to the original picture. The name has changed somewhat so at the present time this clinical entity is described in medical literature under at least three different titles. In fact, it is now twenty-three years since the original description, and since then it has been studied intensively.

Icterus occurs in the newborn in quite a number of widely separated conditions: icterus neonatorum, icterus associated with congenital obliteration of the bile ducts, syphilitic hepatitis, sepsis of the newborn and congenital hemolytic jaundice. In the rather complex syndrome that has been evolved it is the general consensus of opinion that the various conditions that have been described under several terms—icterus gravis neonatorum, congenital anemia of the newborn, erythroblastosis fetalis, universal edema of the fetus—have all the same common cause and, when a symptom is most marked, it has been given the name of the outstanding symptom. Diamond, Blackfan and Baty² are of the opinion that all these apparently widely separated clinical symptoms are really closely related and they are dependent on the same underlying pathologic process.

The infant with the disease may seem normal at birth, although often after birth the child seems depressed, apathetic, and may be drowsy and listless. Every hour the jaundice seems to increase in intensity. The baby becomes weaker and sicker, at times appears to have meningeal symptoms, and may die within the first few days.

Very often a mother loses several babies in succession. In some instances they all die of the disease. Frequently the mother may have a large family, six or even as many as ten. The first two may be normal and the rest die of the disease. Neither infection, birth trauma nor maternal toxemia seems responsible for the condition.

The term "erythroblastosis" is descriptive of the common underlying pathology, recognized in such apparently dissimilar neonatal conditions as congenital hydrops and some cases of icterus gravis. The pathologic feature of congenital erythroblastosis is hyperplasia of the hematopoietic system with reversion to or continuation of the embryonic level of blood formation. There is hyperplasia of the bone marrow; and active foci of hematopoiesis may be found in the liver, spleen, pancreas, kidneys, adrenals, thymus, pituitary and lymph nodes. The circulating blood is flooded with immature cells of all forms, particularly nucleated red cells which may disappear after the first few days, and there is evidence of a varying amount of blood destruction. When the destruction of the red cells exceeds the production, any degree of anemia may result up to the profound type often seen in the congenital hydrops variety of the disease.

The diagnosis of erythroblastosis is suggested at birth by the presence of a thick golden-yellow vernix caseosa. The placenta of erythroblastosis has been reported by Hellman and Hertig³ as being very similar to a syphilitic placenta. They report characteristic findings in sixteen placentas from babies dying of the hydropic variety and seven of the icteric gravis variety, and they describe findings in the epithelium stroma and vascular tree pathognomic of erythroblastosis of the hydropic variety and similar but not so far advanced pathologic changes in the icteric gravis variety. Physical examination may reveal anemia, edema, jaundice, dusky cyanosis, petechial hemorrhages, and enlargement of the liver, spleen and heart.

Clifford and Hertig⁴ state that erythroblastosis is a congenital and frequently familial disease of

*From Department of Pediatrics, University of Oregon Medical School.

*Read before a meeting of North Pacific Pediatric Society, Spokane, Wash., Aug. 27, 1939.

1. Abt, I. A.: Familial Icterus of New-Born Infants. *Am. J. Dis. Child.* 13:231-235, March, 1917.

2. Diamond, L. K., Blackfan, K. D. and Baty, J. M.: Erythroblastosis Fetalis and Its Association with Universal Edema of Fetus, Icterus Gravis Neonatorum and Anemia of Newborn. *J. Pediat.* 1:269-309, Sept., 1932.

3. Hellman, L. M. and Hertig, A.: Erythroblastosis. *Am. J. Obst. & Gynec.* 36:137-153, July, 1938; Pathologic Changes in Placenta Association with Erythroblastosis of Fetus. *Am. J. Path.* 14:111-120, June, 1938.

4. Clifford, S. H. and Hertig, A. T.: Erythroblastosis of New Born. *New England J. Med.* 207:105-113, July 21, 1932.

unknown etiology, involving the hematopoietic system. It runs the major portion of its course prior to birth and presents a confusing variety of clinical pictures, depending upon the severity of the antenatal process and the stage the disease has reached when pregnancy is terminated.

In Abt's⁵ splendid paper he refers to Smyth who reported a most interesting attempt at prophylaxis in icterus gravis neonatorum. An Australian mother had previously given birth to nine infants; the first two were normal and survived; there was one still-born premature birth, and six had developed icterus gravis neonatorum and died from three to eleven days after birth. A prophylactic attempt to prevent icterus gravis for the infant of the tenth pregnancy consisted of hospitalization of the mother through the entire course of her pregnancy, with extremely careful supervision and regulation of her diet. She was perfectly normal during her term of pregnancy. Seven days before labor was due, a cesarean section was performed, and a normal female infant was delivered. The infant remained normal for twenty-four hours, when it became drowsy, icteric and died seventy hours after birth. This report is most instructive. It demonstrates the remarkable familial occurrence of the condition, and the fact that the most careful supervision of the mother gives no clue to the disease of the fetus. The cesarean section precludes all possibility of a vaginal infection of the infant, and is strong evidence against the septic origin of the disease.

The disease is known to occur in many races, and cases have been reported from infants of English, Dutch, German, Scandinavian, Russian, Chinese and Italian parentage. deLange⁶ reports a family in Groningen, in which a mother lost two children with icterus gravis neonatorum in preceding pregnancies, and was finally delivered of twins. The first, a boy, developed icterus gravis neonatorum, and the second, a girl, was born with hydrops congenitus universalis.

Hilgenberg reports a mother who had several normal children by her first marriage, and gave birth to six infants who died of icterus gravis neonatorum by her second marriage. On the other hand, von Gierke⁷ reports the case of a father who had a normal daughter by his first marriage, and by his second wife two newborn infants who succumbed shortly after birth and were found at autopsy to have suffered with icterus gravis neo-

natorum. There is good evidence, then, to point to the familial nature of the disease, though sporadic occurrences have also been noted. The two families quoted, in which second marriages occurred, might point to an hereditary factor. In Hilgenberg's report the mother had normal children by her first marriage, and the second husband would be implicated. On the contrary, in von Gierke's report the father had a normal daughter by his first wife, so that the wife of the second marriage would be suspected of the hereditary transmission.

In a very scholarly survey written Macklin⁸, she believes that erythroblastosis fetalis is inherited and points out the hard fact that, since transfusions may enable the patient to survive to the reproductive period, there is opportunity for the direct transmission of the defect to offspring, and to fifty per cent of the offspring on the average, if the theory that the conditions are due to dominant mutation is correct. These diseases, which before were relatively rare, being dependent on the chance that mutation might occur in the germ plasma of some parent, will become much more common as patients with them survive to the age of reproduction and pass them on to their children.

After reading Abt's contribution, it was felt that we had seen similar cases but had not recognized them. One of our families had lost two children with jaundice shortly after birth. The third was critically ill and recovered after a stormy time. Two years later the mother gave birth to the fourth child who developed severe jaundice and died.

During the last few years we have seen several newborns we have diagnosed as having icterus gravis neonatorum. We also feel, judging from our comparatively limited clinical material, that the condition occurs much more often than was formerly recognized.

CASE REPORTS

Case 1. Baby Y. Male, weight 2935 grams. Five previous pregnancies, in which all the babies died within a short time after birth with prominent symptoms of early and extreme jaundice.

Following birth the baby was slightly asphyxiated and it was necessary to use a tracheal catheter. Four hours following birth he appeared jaundiced and this increased markedly until the seventh day of life when he died. The urine was positive for bile on the day following birth and continued to be full of bile throughout his life. The child became weaker, wrinkled and the eyes were sunken during the latter stage. The liver and spleen were enlarged and the scleras were jaundiced. The child cried continuously. On the seventh day the respirations became shallow and labored and he died at 7 p.m. For blood report see figure 1.

For the first two days of life the baby received 5 per cent glucose solution and later breast milk. Immediately following birth, blood was given intramuscularly and again

5. Abt, A. F.: Erythroblastosis in Icterus Gravis Neonatorum. *J. Pediat.* 3:7-29, July, 1933.

6. deLange, C. and Arntzenius, A.: Icterus Familiaris Gravior und Hydrops Congenitus Universalis Fetus. *Jahrb. f. Kinderheilk.* 124:1-34, 1939.

7. von Gierke, E. V.: Kernikterus und Erythroblastose. *Verhandl. d. deutsch. path. Gesellsch. (Jena).* 18:322-327, 1921.

8. Macklin, M. T.: Erythroblastosis Foetalis: Study of its Mode of Inheritance. *Am. J. Dis. Child.* 53:1245-1267, May, 1937.

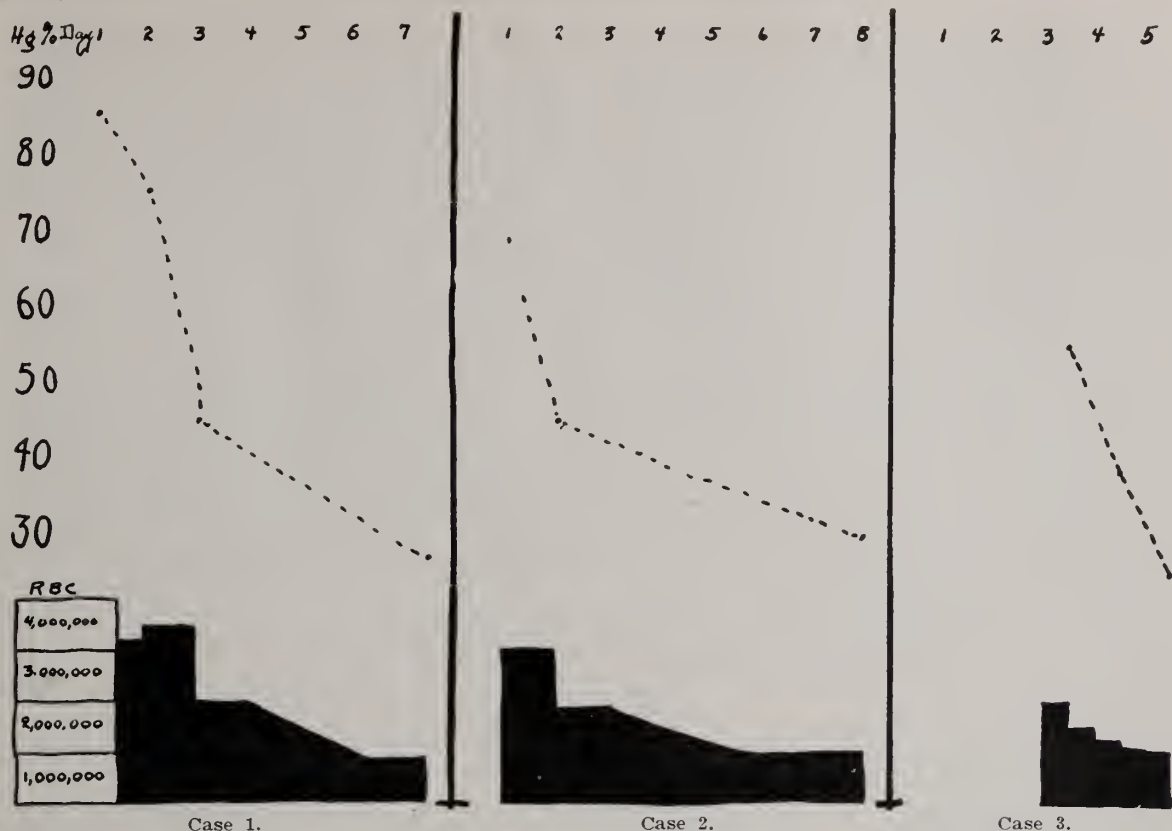


Fig. 1. Cases 1, 2, 3 show rapid red blood degeneration. These babies lived 5 to 7 days and received no intravenous blood.

on the first, second, fourth and intraperitoneally on the fifth day.

The postmortem diagnosis by Thomas Robertson was congenital icterus gravis neonatorum.

Case 2 and case 3 similar to case 1 (fig. 1).

Case 4. Baby S. Mother, age 27, living and well. Father, living and well. First baby, girl, age six years, living and well. Second baby born Dec. 8, 1935, 2:43 a.m. The following morning the baby did not nurse well and became markedly jaundiced. The second day the infant became extremely jaundiced, the respirations very slow, shallow and irregular, and the cry was feeble.

Hemoglobin, 85 per cent; r.b.c., 2,920,000; w.b.c., 7,500; p.m.n., 32 per cent; p.m.b., 2 per cent; monocytes, 6 per cent.

Many nucleated red blood cells.

Fragility began at .44. Findings essentially negative except for jaundice. No enlarged spleen or liver. Intramuscular blood was given (30 cc.) and the infant matched for transfusion but became rapidly worse and died at 9:07 p.m.

Postmortem diagnosis by Dr. Robertson was erythroblastosis fetalis.

Case 5. Baby Cl., born Wilcox Memorial, Sept. 21, 1939, 3:00 a.m. Second baby, healthy young parents. First baby died at birth with hydrocephalus (?). Male child, no weight taken.

Following birth, the child was pale and yellow, very listless and limp. He had a very faint cry. At 5:00 a.m. he was seen by one of us, at which time he was found to be very limp. His breathing was shallow and somewhat irregular. He had a greyish pallor. He did not look around or move about and when disturbed by snapping the bottom of the feet, he responded with a weak cry and slight movement of arms and even this was delayed. There was no response to a grasp reflex. He was merely lifeless, limp and barely breathing.

Small petechiae and ecchymotic spots were noted over the cheek and chest about ten or twelve in number. Heart and lungs seemed normal. Liver was slightly enlarged and spleen was barely palpable.

The impression at this time was of an intracranial hemorrhage or some blood dyscrasia. The infant was given vitamin K and oxygen with carbon dioxide. At 7:00 a.m. he seemed improved.

At 1:00 p.m., eight hours following birth, the blood report was: Hgb., 42 per cent; gms., 7.14; r.b.c., 2,300,000; w.b.c., 173,300; polys., 22; s.l., 48; nucleated red blood cells, 43; unclassified, 30. Bleeding time greatly improved. No record of clotting.

At 5:00 p.m. he was slightly jaundiced. Blood was taken for matching. The grouping was universal donor (type IV Moss).

At 9:00 p.m. 160 cc of citrated blood was given intravenously and the baby died the following morning at 3:00 a.m.

This case presents the rapidity with which symptoms may develop and the confusion in the diagnosis. With no past history and no obstetric record, as yellow vernix caseosa or placental findings, there was very little on which to make a diagnosis. The jaundice was so slight that it would be missed, especially in artificial light. However, the presence of the petechiae made it necessary to check the blood count. This baby had an adequate amount of blood and made no response. It would appear, therefore, when the icterus gravis is so rapid and severe following birth, that in spite of adequate transfusions the prognosis is very grave.

Case 6. Baby Ber. The patient was admitted to Doern-

becher Hospital, July 1, 1939, in extremis. He was a newborn of an unmarried mother. Birth weight approximately 4040 gm. Marked jaundice was present at birth, and many petechiae were noted in the skin and mucous membranes of the mouth. The temperature was 96° on admission.

Examination revealed an apparently mature but listless baby with marked generalized icterus and petechiae. Umbilicus was bleeding. Respiration were rapid and shallow. Anterior fontanelle was level and measured 2 cm. Upper respiratory passages were normal. Sclerae were icteric. Lung fields were clear. Heart was rapid and no murmurs were noted. Abdomen was soft and round. Liver extended four to five cm. below costal margin, and spleen extended to umbilicus. Lymph nodes were barely palpable.

Urinalysis revealed occasional red blood cells and one plus pus. There was bile in the urine. Serology and tuberculin negative. Admission and subsequent blood examinations are recorded below:

	July 1	July 5	July 10	July 21	Aug. 7
Hemoglobin, per cent	96	90	84	87	80
Grams	13.3	12.4	12.01	12	11
R. B. C.	4.5	3.9	3.3	3.9	4.5
Color index	16,800				
(nucleated reds)					
Icterus index	140	320			
W. B. C.	24,200	13,700	12,500	9,550	15,800
Poly. neut.	33	42	68	56	33
Poly. eos.	1	3		1	
Poly. bas.	2			1	
S. L.	25	20	22	26	54
Monocytes		6	4	9	4
St. cells	33	12	6	5	5
Granulocytes	4	3		2	2
Karyoblasts	2				4
Prokaryocytes	50				4
Metakaryocytes	4	4			1
Karyocytes	13	4			
Plasma				2	
Anisocytosis	++	++	+	++	
Poikilocytosis	+				
Polychromatophilia	++	++	+	+	
Reticulo	6%				
Sed. rate		9		16	
Platelets	362,000				
Coag. time	9'30"	8'			
Bleeding time	12	12			

Bone marrow revealed an excessive number of immature red and white cells. Blood culture taken soon after admission was negative. Repeated stool examinations revealed the presence of bile.

Moderate edema of scalp was noted for the first two or three days, but subsided after this time. Repeated transfusions were given at very short intervals, 50 to 125 cc. being given each time from a donor not related to the family. He was clinically benefited for a short interval following each transfusion. The jaundice deepened progressively to intense yellow-green color. Liver and spleen remained about the same size. Petechiae disappeared after the first few days, and none reappeared. The baby was placed on evaporated milk formula on admission, but was given mother's milk when available. He did not take the feedings satisfactorily, and regurgitated frequently.

The patient continued on the above course until the end of second month. The jaundice was always severe and may have decreased somewhat towards the end. He finally developed abscesses, ran a septic fever and died Sept. 12.

Autopsy diagnosis by W. C. Hunter was erythroleukoblastosis fetalis and icterus gravis neonatorum.

As brought out by Ross and Waugh⁹, "In most cases of icterus gravis neonatorum which we have seen the jaundice was the result of hyperbilirubi-

nemia due to hemolysis, plus regurgitation of bile pigment resulting from block of the bile canaliculi with bile pigment. In some cases obstructive jaundice persists after the hemolysis ceases. In others, the obstruction passes off, but the hemolysis persists and causes continuation of the jaundice." This would explain the continuation of the jaundice in this baby.

Case 7. Baby Sc., second brother of case 4 (see figure 2). Third pregnancy terminated at 3.52 a.m. Birth weight 2985 grams.

Record following birth: Second pregnancy in this family is case 4. General condition good, respirations clear, paralysis, none; hemorrhage, none; cry strong, skin jaundiced, head moulding, other findings all normal. No enlarged liver or spleen.

Figure 2 shows a graphic record of hemoglobin as observed at repeated intervals. The following table represents the blood count record as made on the first and fourth days.

Peripheral blood	1st day	4th day
Hemoglobin, per cent	96	48
Grams Hgb., per cent	13.25	6.62
R. B. C.	4.48	2.17
W. B. C.	16,700	8,450
Poly. N., per cent	54	10
Monocytes, per cent	46	8

On the fifth day the baby appeared jaundiced and pale. He was very listless and looked as though he would die. A direct transfusion of 135 cc. blood was given, following which he looked pink and the jaundice appearance seemed to disappear. From the fifth day the jaundice gradually increased until the ninth, when the baby again acted like he would die. A second direct transfusion (235 cc.) was given and again he appeared normal and healthy. The nurse's chart stated that he was pink following the transfusion for three days but by the fifth day following the second transfusion or the thirteenth day of life he again appeared jaundiced and by the sixteenth day was jaundiced and pale. On this day, March 18, 1938, a direct transfusion of 245 cc. of blood was made. The response to each transfusion can be noted by figure 2.

Conclusions that may be drawn from this case are that direct intravenous transfusion was the factor in saving this baby's life. The amounts of blood given were greater than usually recommended and more than should be given as a routine, but when one is dealing with a severe anemia the quantity of blood given should be increased in proportion to the depth of the anemia.

In this family we have the definite history of an icteric gravis occurring in the second child, case 4. We have the third baby (this case) who developed jaundice soon after birth, and then rapidly developed severe anemia, reaching a low level of 48 per cent Hgb. (r.b.c. 2.17); 35 per cent Hgb. (r.b.c. 1.19); and 46 per cent Hgb. (r.b.c. 1.57). The first time, five days following birth, the second time nine days following, and the third time, fifteen days following birth. At these low ebbs the baby was extremely jaundiced, rather greyish and it seemed that life was hopeless. Following each transfusion

9. Ross, S. G. and Waugh, T. A.: Certain Types of Icterus Gravis. *Am. J. Dis. Child.* 51:1059-1082, May, 1936.

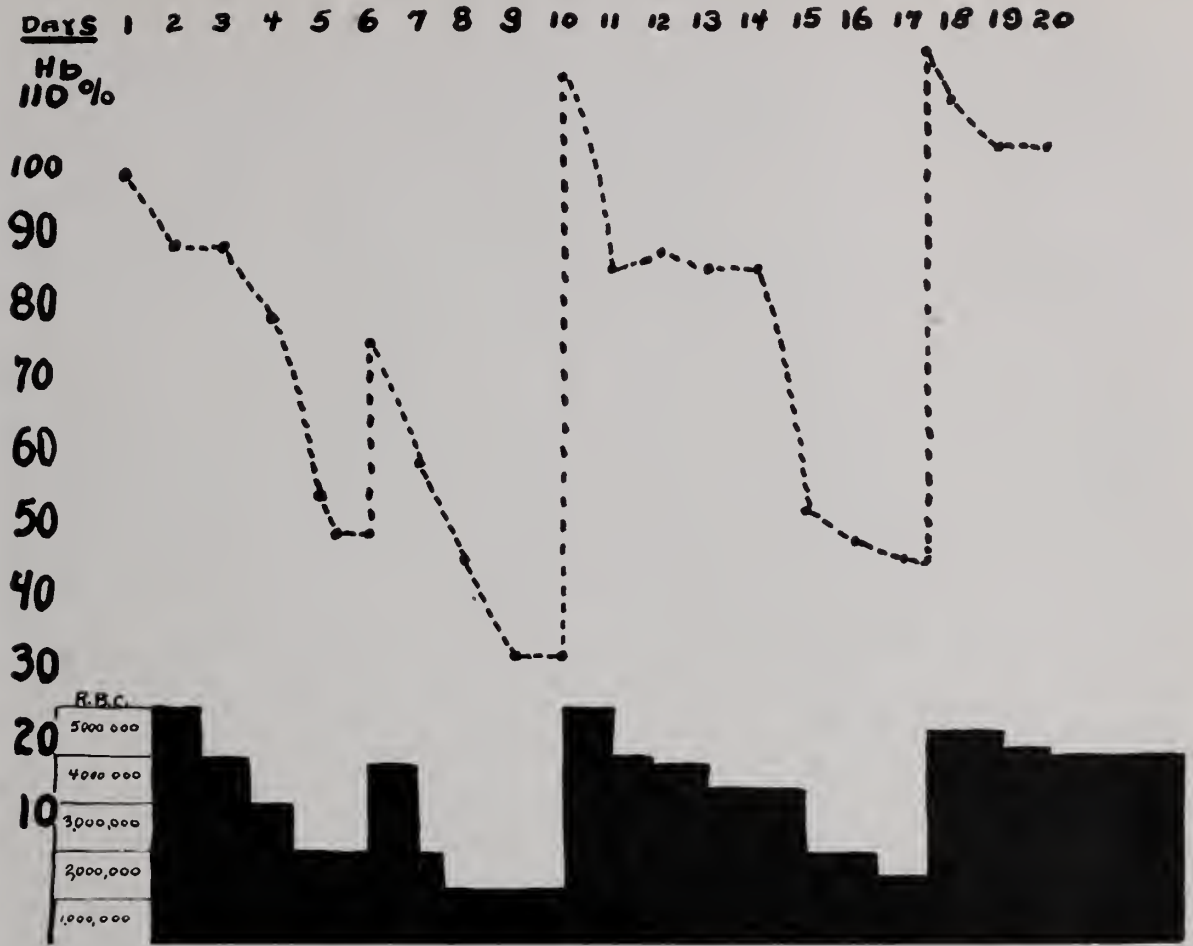


Fig. 2. Case 7. Similar to first three cases except baby received three substantial intravenous transfusions. Shows degeneration of blood continues and repeated intravenous transfusions of large amounts may be necessary.

the child was restored to a pink healthy appearing infant, in fact, so much so that doctors wishing to examine him would look for his name on the bed.

	May 1	May 2	May 3	May 16	May 28	June 21
R.B.C.	4.2	3.46	3.5	3.6	4.1	21
Hgb., per cent	87	50	53	59	71	71

On May 2, when the hemoglobin dropped to 50 per cent, the fourth drop, the baby was placed on iron orally. The increased hemoglobin and red blood count at this time may be attributed to the iron therapy.

Today the boy is over fifteen months of age, weighs 25 pounds and has the appearance of a very healthy, husky boy.

Case 8. Baby R., born June 3, 1939, weight 7 pounds, 5 ounces. Mother age 23, living and well, three previous miscarriages (causes unknown). Father living and well.

Following delivery the condition seemed good. Baby cried spontaneously, was pink and seemed normal. On the third day jaundice started and increased in severity until the sixth day, then gradually decreased and disappeared around twelfth to fifteenth day.

He was seen by one of us on the twelfth day, at which time he seemed listless, slightly jaundiced and pale. Red blood count revealed 2.15 and hemoglobin of 44 per cent. The following day red blood count dropped to 1.72 and hemoglobin was 38 per cent. White blood count was 15,800

with normal differential except for 5 per cent staff cells. No nucleated red blood cells were observed. The next day he was given 120 cc. of citrated blood intravenously.

On June 22 he was given 30 cc. citrated blood intravenously and 100 cc. subcutaneously. He was discharged on the 18th day and was followed at the office. Iron was added to the diet after four weeks.

Following is the record of the blood counts:

	7	14	15	17	19	26	1	10
Hb.	77	44	38	77	68	40	63	65
R.B.C.	3.44	2.15	1.72	3.84	3.25	2.8	3.1	3.0
W.B.C.	15,000	19,000	15,000	16,000	14,000			
P.M.	67	38		69				
PME	0	2		0				
PMB	0	0		1				
S.L.	21	40		22				
Mono.	2	11		3				
Staff cells	10	9 plus		5				

At five months of age he weighed thirteen pounds and was very much improved. His appetite was enormous, according to the mother.

This case presents some of the characteristics of erythroblastosis fetalis.

1. History of miscarriages. It would be interesting to know causes of death in these pregnancies.

2. Jaundice. Follows the time usually seen in physiologic jaundice, but is prolonged beyond the usual period.

3. Progressive anemia, with marked reduction of

red blood count and hemoglobin. This occurred three times; first time controlled by substantial intravenous blood, second time by intravenous blood and subcutaneous blood, and third by use of iron.

No nucleated red blood cells were observed, but this is not necessary for diagnosis of erythroblastosis.

The question in this baby is whether this form of erythroblastosis is called congenital anemia or could it be a milder form of icterus gravis or possibly a blend of the two.

Case 9. Baby W., born Feb. 4, 1939, weight 6 pounds 7 ounces. Family history: two children living and well. Mother and father living and well. No history in either family of jaundice.

Following birth of the baby there was some difficulty in resuscitation. The following day the child seemed moderately jaundiced, sluggish and did not respond to stimuli. She vomited and it was necessary to use carbogen occasionally for cyanotic spells. Physical examination was essentially negative except for jaundice. Sclera of eyes did not seem to be involved. The impression at the time was that the baby might have erythroblastosis or the jaundice might be early physiologic. However, the blood smear showed a large percentage of nucleated red blood cells. These were noted even to the fourteenth day.

	February				
	5	6	8	9	16 20 23
Hgb., per cent....	74	68	50	48	50 54 65
Gms.	12.58	11.2	9.0	7.2	
RBC	3.48	3.1	2.8	1.8	2.8 2.9 3.1
WBC	31,000	25,000	18,000	14,000	14,000
P.M.N.....	60				
Eos.....	3				
S.L.	29				
Trans.	2				
Mono.	4				
Unclassified	2				
Weighted mean..	1.3				
Nucleated RBC..	75	60	many	many	many

The baby was given subcutaneous saline and serum made from the mother's blood on Feb. 6. By Feb. 9, hemoglobin had dropped to 48 per cent and red blood count was very much decreased. Jaundice was moderate and the baby appeared in fairly good condition. It was felt that a transfusion was indicated and 40 cc. of blood was given intravenously and 120 cc. intraabdominally. We would rather have given more intravenously and probably none into the abdominal cavity. However, it was interesting to note there was a small response to intravenous and delayed response to intraabdominal. This would indicate that, when an emergency exists with icterus gravis neonatorum, the blood should be given intravenously. The baby made good progress and has developed normally.

Case 10. G. Br., born August 23, 1939. This was the second baby of healthy parents. The mother had hypertension throughout pregnancy and a small amount of albumin was noted for a short while.

The first baby had bile stained vernix caseosa and was pale throughout life. It developed jaundice after a few days and died on the thirteenth day. The mother states that her mother, maternal grandmother of our patient, had three children in whom the amniotic fluid was bile stained.

This second baby had bile stained vernix. Hemoglobin and red blood were within normal limits at birth. On Sept. 6 hemoglobin had dropped to 40 per cent and the red blood count to 2.04. To this time the baby had made a consistent gain on breast milk.

The infant was admitted to Doernbecher Hospital Sept. 7, at which time it was found to be afebrile, very pale and listless. No petechiae or jaundice were noted. There was no evidence of infection and, except for an enlarged liver and spleen, the examination was negative.

Laboratory: Hgb., 40 per cent; gms., 6.35; r.b.c., 1.75; icterus index, 8; w.b.c., 31,500 (many erythroblastic cells). Diff. p.m.n., 26; eos., 3; bas., 1; s.l., 32; m., 3; staff, 11.

In a field of 100 white blood cells the following number of immature red and white cells were found: metagranulocytes, 3; granulocytes, 3; prokaryocytes, 1; karocytes, 9; metakaryocytes, 4; coagulation, 4 min. 30 sec.; bleeding,

CASE	Depth of Jaundice	Appeared Day	R. B. C.		HGB.		Blood Group	Total Transfusion		Nucleated R. B. C.	Liver Size	Spln. Size	Result	Previous History
			High	Low	High %	Low %		Intra Venous CC.	Intra Muscular CC.					
1	+ to ++++	1	3.2	.92	85	28	II Moss		165		++	++	Died 7th day	5 other babies died similar conditions.
2	+ to +++	1	2.75	1.17	68	26.2	No record		100	Through-out life	+	+	Died 7th day	4 normal children previously.
3	+ to +++	1	2.01	1.03	53	31	No record		110	Through-out life	+	+	Died 7th day	First baby.
4	+ to ++++	1	2.9		85		No record			Many nucleated R.B.C.	+	+	Died 3rd day	1st—normal, 2nd—this case, 3rd—Case VII.
5	+++ to ++++	1		2.3		42	IV Moss	160		Nucleated R.B.C.	+		Died 1st day	2nd baby, 1st—hydrocephalus.
6	++++ to ++++	1	4.5	3.3	96	80	IV Moss	565		Through-out life	+++	+++	Died	First baby.
7	++ to +++	1	4.48	2.17	110	36	IV Moss	615		First few days, none later	+	+	Living, 2 yrs. old	3rd baby, 2nd died, Case IV.
8	+ to +++	1	3.44	1.72	77	38	II Moss	150	100	None noted	0	0	Living, 1 yr. old	First baby.
9	+ to ++	1	3.48		74		II Moss	40	120	Until 15th day	0	0	Living, 10 mo.	No previous history, 2 normal children.
10	None noted	None	4.5	1.75	95	40	IV Moss	455		Beyond 3rd week	++	++	Living, 1 mo.	History in family of 1st child, history on maternal side.

Fig. 3. Resume of cases. Note early appearance of jaundice, low hemoglobin of those that died; familial history in three families (4 cases); four living cases received intravenous transfusions.

<i>Hydrops Fetalis</i>			<i>ERYTHROBLASTOSIS FETALIS</i> <i>Icterus Gravis Neonatorum</i>			<i>Congenital Anemia</i>		
Severe	Moderate	Mild	Severe	Moderate	Mild	Severe	Moderate	Mild
		<u>Case 5 died</u>	<u>Case 6 died</u>	Case 1 died	<u>Case 8 living</u>	<u>Case 10 living</u>		
		Case 4 died		Case 2 died	<u>Case 9 living</u>			
				Case 3 died				
				<u>Case 7 living</u>				

Fig. 4. Erythroblastosis fetalis may be divided into the three common manifestations: (1) hydrops fetalis, (2) icterus gravis neonatorum, (3) congenital anemia. It is felt that they may further be divided into a severe, moderate and mild form of each of these variations. An attempt has been made to classify our cases under each manifestation and the result noted. It can be noted that

2 min. 45 sec.; serology and tuberculin tests were negative.

The baby received transfusions Sept. 8, 70 cc; Sept. 9, 75 cc.; Sept. 13, 150 cc.; Sept. 23, 160 cc. The first two transfusions boosted the hemoglobin to 73 per cent, following which it dropped to 50 per cent; the third brought it up but again it fell to near 50 per cent, and following the fourth transfusion, remained near 95 per cent. The baby was not jaundiced at any time while in the hospital. The patient was discharged to the family doctor and according to reports has made good progress (fig. 3. Resume of ten cases).

The first three cases, as shown by figure 1 lived about seven days. It is felt that these were inadequately treated and, if they had been directly transfused, there would have been greater chance of life. The next two cases, 4 and 5, show a more grave condition, severe icterus gravis neonatorum. These two died, the fourth without and the fifth with substantial intravenous transfusion. This shows that, in spite of adequate therapy in some infants, the condition has advanced beyond the point where it can be checked, and possibly those in extreme at birth are beyond help.

Case 6 represents a moderate hemolysis with obstructive symptoms. This baby was not so alarming in symptoms at birth but the findings of a very large firm liver and spleen along with a marked jaundice was different from the preceding two. He was adequately treated from the start but as time went on the jaundice increased and did not seem to go away when he was transfused, so we feel that in spite of adequate transfusions there was no hope.

Case 7, as seen in figure 2, shows moderately severe icterus gravis which responded so well to transfusions. Cases 8 and 9 are similar to 7. Eight was less severe than 9, but the three showed marked response to transfusion. It is felt these are the ones that can be saved and the first three cases shown fall into this group.

Case 10 shows a variety in which jaundice is not the outstanding symptom. This baby probably fits closer to congenital anemia.

From this series it is felt that the variation in

the mild hydrops and a severe icterus died in spite of transfusion; in the moderate icterus variety three died who were not transfused and one lived who was, and it was necessary to transfuse the tenth case which might be considered a mild icteric gravis or severe congenital anemia. Cases underlined received adequate intravenous transfusion.

prognosis depends on the time the process started and severity of the process during fetal life. As is brought out by several observers, hydrops is very early acquired in uterine life, icterus gravis later and congenital anemia shortly before birth. We have classified our cases (fig. 4) under severe, moderate and mild of each form of the hydrops, icteric and anemic type.**

CONCLUSIONS

1. A review of ten cases of erythroblastosis fetalis is given.
2. The common feature, as early jaundice, devastating anemia and marked familial tendency, is shown in these cases.
3. The value of intravenous transfusion in large amounts is suggested.
4. Various types of icterus gravis neonatorum are shown and separation of these types into mild, moderate and severe is suggested.

CULLEN SIGN IN POSTABORTAL INFECTION

HENRY G. HADLEY, M.D.

WASHINGTON, D. C.

This bluish discoloration about the umbilicus or operative abdominal scar was described by Cullen.¹ It is certainly of value as a diagnostic sign of intrabdominal hemorrhage, but is not infallible as illustrated by Schumann's² report. The following case also illustrates this.

M. S., white, aged 17, was first seen February 19, 1939, giving a history of scanty and irregular menses for three months, pain, nausea and vomiting. She had suffered an acute attack of abdominal pain two weeks before, and been confined to bed. Because she was seized again with a violent abdominal pain, examination was requested.

She was pale, anemic and somewhat in condition of shock. There was a left sided abdominal mass apparently in the tubal area and apparently no uterine pregnancy. There was slight fever which surgical consultation considered to be due to a ruptured ectopic pregnancy. A definite Cullen sign was noted around the umbilicus.

Preoperative diagnosis was a walled off intraabdominal hemorrhage from a previously ruptured extrauterine pregnancy. At operation the surgeon found an abscess, apparently due to postabortal infection. Postoperative convalescence normal, recovery uneventful.

CONCLUSIONS

The Cullen sign is not an infallible indication of intra-abdominal hemorrhage. A definite bluish umbilical discoloration was found in a case of tubal abscess.

1. Cullen, T. S.: New Sign in Ruptured Extrauterine Pregnancy. *Am. J. Obst. & Gynec.*, 78:457, Sept., 1918.

**We are greatly indebted for a portion of this material to papers written by Drs. Isaac Abt, Blackfan and associates, Drs. Clifford and Hertig, Arthur Abt, Hilgenberg and E. V. Gierke.

2. Schumann, E. A.: Case of Periumbilical Ecchymosis Associated with Acute Salpingitis. *Am. J. Obst. & Gynec.*, 6:632-633, Nov., 1923.

OTITIC INTRACRAINIAL COMPLICATIONS PROCEDURES IN DIAGNOSIS*

O. M. ROTT, M.D.

SPOKANE, WASH.

The title of this paper carries the assumption that a diagnosis of an intracranial complication of otitic disease can be more surely and more quickly reached by following a definite method. First of all it is essential that we search for or at least recognize those signs and symptoms that suggest some intracranial complication. The second step is to decide whether some intracranial complication is present, or whether the suggestive symptoms may be explained on the basis of some less serious complication. Our third step should consist in determining upon the structure involved. Our fourth step consists in determining the nature, location and extent of the trouble. Finally, we should know whether there is more than one condition present.

In practice these steps are not strictly isolated. Frequently several are carried on simultaneously, but whether separated or not, they should all be taken at some time during the making of a diagnosis, and since we cannot describe them all at once, we must segregate them for descriptive purposes if for no other reason.

What are the signs and symptoms suggestive of some intracranial complication when the only definite decision one can make is that the patient is not progressing normally? As Riddoch¹ says: "In cases of acute ear disease, if, in spite of efficient drainage, the patient continues to feel ill, has no appetite, has fever with corresponding increase in pulse rate, and complains of headache which may be unilateral or bilateral, spread of infection is indicated."

Or as Shuster² writes: "When something goes wrong during the postoperative period, then we become worried, chiefly about intracranial complications. Ordinarily we expect some temperature elevation, and the pulse and respirations in accordance with the temperature. Perhaps a greater rise may be seen as part of the postoperative reaction, but then a gradual decline to normal within a week or ten days. Other symptoms like pain, restlessness, insomnia, etc., are expected to rapidly disappear. When, however, neither the temperature nor the symptoms show any tendency toward amelioration,

we may think of some intracranial complication." Cairns³ also stresses the importance of a not entirely smooth postoperative period. He wrote: "There is some headache and vomiting and the temperature is not even, but shows falls to 96° and rises to 100°. The same symptoms may follow a mild attack of mastoiditis with the same significance."

Having some suspicion about the possibility of an intracranial complication, our next step should consist in determining the cause of these suggestive symptoms. What is our next method of procedure? In the acute ear conditions, as Shuster points out, all other possible causes of the suggestive intracranial symptoms must be eliminated first, because in these cases the intracranial complications are relatively infrequent. He says: "Often a stitch abscess, a collection of pus within the wound, may explain everything. We must also not forget that a patient who has been operated on for mastoiditis is not immune to other ailments. The latter have been found in many forms. Tonsillitis, diphtheria, opposite ear involvement, pneumonia, with or without meningeal irritation, nephritis and even appendicitis are conditions which I have seen develop in patients during their course of illness with mastoiditis. These and similar conditions should be ruled out before we come to the point of deciding for an exploration of the head for intracranial complications."

Along the same line, Layton,⁴ in considering the conditions to be ruled out before suspecting intracranial complications following operation for acute mastoiditis, mentions: (1) a collection of pus in the wound, for which he suggested washing out the wound with a pint of normal saline in order to rule out this factor; (2) coincident general inflammation of the upper respiratory tract; (3) general septicemia, which might be arising at the time the mastoid trouble was developing; and (4) septicemia from operating in an early stage of the bone inflammation.

In chronic ear conditions, on the other hand, Shuster tells us that we should think of the ear first as a possible factor in the production of suggestive head complaints, and eliminate it first before making a definite diagnosis of another ailment. This attitude is justified because of the greater frequency with which intracranial complications follow chronic suppurative forms of ear disease, especially in the presence of an acute exacerbation. "Here," he says, "we have a devitalized mucous

*Read before the Twenty-seventh Annual Meeting of Pacific Coast Oto-Ophthalmologic Society, San Francisco, Calif., Jan. 19-20, 1939.

1. Riddoch, G.: Some General Aspects of Intracranial Complications of Aural Infection. *J. Laryng. & Otol.*, 46: 225-235, April, 1931.

2. Shuster, B. H.: Intracranial Complications of Otitic Origin with Reference to Diagnosis and Management. *Laryngoscope*, 37:897-919, Dec., 1927.

3. Cairns, H.: Abscess of Brain. *J. Laryng. & Otol.*, 45:385-397, June, 1930.

4. Layton, T. B.: Discussion of Paper of Geo. Riddoch. *J. Laryng. & Otol.*, 46:250, April, 1931.

membrane with fibrous tissue that had formed, cutting off the blood supply from underlying bone, diminishing its power of resistance. Here is a vulnerable point for an active infection to make its entrance into the cranium."

Even after no extracranial cause can be found to account for the suggestive head symptoms, there is still a possibility that all may yet be well, for, as Riddoch points out, "there are at least three consequences of the appearance of such symptoms: (1) the almost immediate development of acute meningitis, encephalitis or lateral sinus infection; (2) permanent recovery; and (3) the formation of a chronic abscess. In the first eventuality, we will not long be kept in doubt; in the second we need not worry; but in the third, the formation of a chronic abscess, we are prepared for the outcome just to the extent that we remember these vague symptoms of the invasion period."

This is the real importance of dwelling so long upon these suggestive symptoms, not that we should expect to make a diagnosis at this stage and rush in to explore the brain, but that later on, when more definite symptoms arise, we may be in better position to evaluate these properly, if and when, by carefully going over the chronologic history of the patient, we recall or bring to light by our questioning these vague early indications of the time at which the infection first reached the endocranial structures.

Granted the presence of an intracranial complication, which one is it most likely to be? If the symptoms do not seem to point more to one complication than another, a sinus thrombophlebitis should be suspected first, as it is the one most frequently found, and a search made for those signs, symptoms and operative findings that point to its presence.

But even if one is not positive, one should not hesitate to explore the sinus simply because all the data are not to be found. Exploration is relatively harmless, compared to the danger done to the patient by leaving an infected sinus unopened. And in this connection the point must not be forgotten that an apparently normal appearing sinus wall may harbor the cause of all the patient's symptoms.

Suppose our attention is directed to the probability of a brain abscess being the cause of the symptoms, how can this be verified? Of course, if the patient presents the classic signs and symptoms usually associated with the presence of a brain abscess, namely, slow pulse, slow respiration, subnormal temperature and choked disc, there will be

very little difficulty in making a decision, but we should bear in mind that these symptoms are not those of a brain abscess per se but rather, as Symonds,⁵ Eagleton,⁶ Atkinson⁷ and others have pointed out, manifestations of an increased intracranial pressure.

The reason that a diagnosis of brain abscess should be made before the manifest stage, the stage, according to Atkinson, "of increased pressure and of localizing signs," is that these symptoms "are evidence of a large abscess or of surrounding encephalitis, both conditions which impair prognosis. The cases which offer the best prospect of recovery are those in which the abscess is of recent development and still small, or is caused by an organism of low virulence so that tissue reaction is good, the abscess wall definite, and the surrounding encephalitis minimal. It is precisely in such cases that diagnosis is most difficult, for until they have attained a large size, they are silent abscesses, whose presence will only be suspected by the accumulation and correlation of a number of small and inconspicuous manifestations."

If, then, the diagnosis should be made before the appearance of the manifest stage of severe paroxysmal headache, vomiting, papilledema and slow pulse, when should the diagnosis be made and how? In other words, what aids can be brought to our assistance? In the acute abscess, or as Atkinson⁸ prefers to call it, the acute hemorrhagic encephalitis, where the explosion occurs soon after the period of invasion, not much time is given for a diagnosis, but in the chronic abscesses the diagnosis should be made in the so-called latent stage, in what I prefer to name the stage of formation or encapsulation which is midway between that of invasion and the manifest stage. This name is used instead of "latent" because, by thinking of this as the latent stage, we are apt to infer that there are no manifestations of its presence and hence give up the search for symptoms. To call this the latent stage is simply an excuse for our careless mental habits because, as pointed out by Riddoch, this is not a latent stage, only a relatively latent phase because there are plenty of manifestations of trouble present, but not so many as will be pres-

5. Symonds, C. P.: Points in Diagnosis and Localization of Cerebral Abscess. *J. Laryg. & Otol.*, 42:440-448, July, 1927.

6. Eagleton, W. P.: Jackson, C. and Coates, G. N.: *The Nose, Throat and Ear and Their Diseases*. p. 572. W. B. Saunders Co., Philadelphia, 1929.

7. Atkinson, E. M.: Abscess of Brain; Its Pathology, Diagnosis and Treatment. *Lancet*. 1:483-488, March 10, 1928.

8. Atkinson, M.: Localized Non-Suppurative Encephalitis Adjacent to Focus of Infection in Skull. *Arch. Neurol. & Psychiat.*, 41:556-564, March, 1939.

ent in the manifest stage; hence his statement that latency is a comparative term.

Granted the presence of so many symptoms in the early stages, why are brain abscesses so frequently overlooked? Bagley⁹ says: "Fear of the presence of an abscess frequently prevents the physician from facing the extremely unpleasant situation until the appearance of grave symptoms." Cairns lists the following causes of errors: "(1) the possibility of an abscess is not considered; (2) neglect of ophthalmoscopy and perimetry; (3) misconception that a brain abscess like other abscesses must produce a rise in temperature; and (4) urgency of condition not recognized even though abscess is suspected." Dixon¹⁰ thinks the chief source of error is due to the fact that we overrate the value of neurologic observations in the early diagnosis and neglect the most important aid, the history. Riddoch also voices the same sentiment, saying that the error is common "much more because of faulty investigation of the patient's medical history than want of expertness in locating the site of the lesion."

Because at some stage in the formation of an abscess there occurs a generalized increase of intracranial pressure and because this is found in association with some nonsuppurative otitic intracranial complications such as infective and serous encephalitis, and because these same nonsuppurative conditions at some stage in their progress give rise to localizing signs and symptoms as typical of a brain abscess as a brain abscess itself, we are forced at this stage of our investigation to be certain that no nonsuppurative intracranial condition is responsible for the symptoms. Especially is this true of nonsuppurative otogenic encephalitis, where the pathologic change is similar to the pre-suppurative stage of a brain abscess, even to the production of localizing symptoms such as aphasia, hemiparesis and hemiplegia.¹¹

Fortunately, according to Zentay,¹² "these conditions are capable of simulating only a brief phase in the course of development of brain abscess, i.e., the stage of invasion or of meningeal irritation at the height of an abscess. The rest of the clinical course of these conditions and that of brain abscess is so vastly different that separation should not be

difficult." However, explorations have been made for a brain abscess when none was found and the patient ultimately recovered; hence it appears that these conditions might be capable of simulating a brain abscess longer than some might think. But by keeping in mind the possibility of there being present a nonsuppurative intracranial condition, we might spare the patient repeated punctures in a vain endeavor to disclose an abscess when none is present, and we might be able to give the patient a better prognosis, in instances where puncture fails to disclose the presence of pus. Both Borries¹³ and Jerlang¹⁴ draw attention to these points, and Atkinson has recently attempted to present clinical pictures of these various types so that each might be differentiated from the others and from an abscess.

Having reached the stage in our investigation where we feel fairly certain of the presence of an abscess, our next concern naturally is in its probable localization. Since the more frequent site is in the temporosphenoidal lobe, and if there are no outstanding symptoms pointing to the cerebellum as the most probable site, I think the first step toward making of a localizing diagnosis should be to search for those signs and symptoms which are suggestive of a temporosphenoidal lobe abscess, after which search should be made for those signs and symptoms suggestive of a cerebellar abscess.

The last of the intracranial complications we are to consider is meningitis, but before proceeding to the enumeration of the signs and symptoms which point to it, a few words are necessary in order to establish a common ground for a consideration of this phase of our topic. Otitic meningitis may be defined as an inflammatory reaction of the sub-arachnoid meshes to an irritant of otologic origin, irrespective as to whether that reaction occurs before the subarachnoid spaces actually have become infected, as in the protective form of meningitis, or whether the infection has become diffusely scattered throughout the subarachnoid spaces as in diffuse or general septic leptomeningitis.

The forms encountered are not different types of meningitis but only different stages of one type. In the earliest stage, called by some protective meningitis and by others meningeal irritation, the subarachnoid spaces are not yet actually infected by the germs, but absorption of toxins from the adjacent infective focus in the ear causes a protective

9. Bagley, C. J.: Brain Abscess, Clinical and Operative Data. J.A.M.A., 81:2161-2166, Dec. 29, 1923.

10. Dixon, O.: Brain Abscess as Otologist's Problem. J.A.M.A., 96:481-487, Feb. 14, 1931.

11. McConnell, A. A.: Non-Suppurative Intracranial Complications of Otitis Media. Brit. M. J., 2:659-660, Oct. 2, 1937.

12. Zentay, P. J.: Acute Encephalitis or Toxic Encephalopathy Simulating Brain Abscess. Am. J. Surg., 42: 112-115, Oct., 1938.

13. Borries, G. V. T.: Diagnostic Problems in Otogenous Intracranial Problems. J. Laryng. & Otol., 51:791-806, Dec., 1936.

14. Jerlang, E.: Otogenous Non-Purulent Encephalitis. J. Laryng. & Otol., 53:283-293, May, 1938.

reaction in the subarachnoid spaces which is nature's method of preventing the infection from spreading from the ear to those spaces, and if the infection in the ear is successfully eradicated at this stage, no further progress will occur. If, however, the infection in the ear is not successfully eradicated during this protective stage of meningitis, it actually invades the subarachnoid spaces and produces either the second stage, called the stage of localized septic meningitis, or goes on to the third and last stage. While there are times when the latter stage occurs almost at the onset of the trouble, producing what is called the fulminating cases, in most of the cases these three stages occur at more or less well defined intervals. If the earlier the condition is recognized the better is the hope for a cure, it is incumbent upon all of us so to acquaint ourselves with the manifestations of these earlier stages, that they will be promptly recognized and no time lost in properly eradicating the focus of infection so as to prevent the deadly final stage.

What, then, is the method of procedure when the evidence points to a meningeal involvement? We should first decide whether we are dealing with the suppurative form or a nonsuppurative type by making a spinal fluid examination. If the fluid is cloudy, we may assume the presence of a suppurative type and our next procedure should be the determination of the presence or absence of organisms. If no organisms are found, a search should be made for those symptoms pointing to the probable location of the focus of infection, so that this focus which is causing the meningeal irritation may be removed. If, on the other hand, organisms are present in the spinal fluid, our next step should consist in their definite identification, whether Gram-positive or Gram-negative and this cannot be accomplished by an interpretation made from a study of smears. Only a most careful study, after cultures on proper media have been made, will determine this fact as has been so convincingly pointed out by Eggston¹⁵ and Dwyer,¹⁶ because the examination from a smear may reveal Gram-negative cocci, not because they are meningococci, but because they fail to take the Gram stain, due to the fact that they are degenerative forms of Gram-positive cocci, such as streptococci and pneumococci. So, in order not to be misled, we should await the later report made after proper cultural methods.

That our work of diagnosis is not finished, even

after a diagnosis of otitic meningitis is made, is evidenced by the fact that the meningitis may be caused not only by an infection from without, but by one from within the skull, either from a sinusphlebitis or from an abscess; consequently, besides knowing that a meningitis is present in a particular stage, it is incumbent upon us to be positive that no other intracranial complication is present at the same time before being satisfied simply with the diagnosis of an otitic meningitis.

SUMMARY

We should ask ourselves the following questions in the order named, seeking the answers from the history, from the general and neurologic examination, and finally from the operative findings: (1) Is there an intracranial complication present? (2) Is it a sinusphlebitis? (3) Is it a nonsuppurative encephalitis? (4) Is it an abscess and, if so, where? (5) Is it a meningitis and, if so, in what stage? (6) Is there more than one intracranial complication?

1680 Paulsen Medical and Dental Building

ONYCHOLYSIS

REPORT OF CASE

DONALD D. MCROBERTS, M.D.

LEWISTON, IDA.

Onycholysis is a painless partial separation of the nails without preceding symptoms of systemic or local inflammatory process. It may increase or regress in recurrent attacks.

The typical process is a separation of the nail, beginning at the free distal end with slow progress of the separation toward the lunula, where the nail is usually held securely enough to prevent complete separation except by force. The process may start on single or multiple fingers or toes. The finger or toe nails may first become thickened and hard, or this process may occur later during the disease. The space between the nail and nail bed is filled with fine, easily removable, horny scales and dirt particles.

Multiple etiologic causes were upheld when Unna¹ and Fournier² reported that syphilis alone was the etiologic factor. Crocker³ stated that the disease was caused by neuritis and not syphilis. Oppenheim⁴ reported three cases which were due

15. Eggston, A. A.: Bacteriology of Suppurative Meningitis. *Laryngoscope*, 49:16-20, Jan., 1939.

16. Dwyer, J. G.: Differential Diagnosis of Meningitis. *Laryngoscope*, 49:21-22, Jan., 1939.

1. Unna, P. G.: Anatomische Physiologische Vorstudien Zu einer Künftigen Onychopathologie. *Arch. F. Dermat. N. Syph.*, 13:3-1881.

2. Fournier, J. A.: *Traite de la Syphilis*, 1:394, Rueff et Cie, Paris, 1899.

3. Crocker, H. R.: Diseases of the Skin, 2:1252. P. Blackiston's Son & Co., Philadelphia, 1907.

4. Oppenheim, M.: Onycholysis Partialis e Combustione. *Dermat. Ztsch.*, 19:464, 1912.

to sodium hydroxide, and Neugebauer⁵ reported one case due to sodium hydroxide. Arzt and Hausmann⁶ reported two cases in brother and sister of consanguineous parents. These cases also showed other anomalies. Gilbert⁷ reported a case in a furrier which was believed to be caused by scraping the skin of a rabbit. Frieboes⁸ reported a case in a woman with neurosis and hysteria.

Templeton⁹ reported five cases in women employed in the removal of labels from bottles. Their hands being continuously under water and moist, he believed their condition was due to maceration and mechanical trauma (picking). These five cases cleared up with a change of work. Steiner¹⁰ reported a case which he believed due to cowhide irritation. Other etiologic factors which have appeared in the literature have been exposure and lightning, multiple sclerosis, brain concussion, diabetes mellitus, chronic arsenic poison and freezing of the fingers.

Strauss¹¹ reported one case concurrent with alopecia areata, appearing on both fingers and toes. This, he believed, proved the disease was not occupational. However, Vieceili¹² stated four factors, all of which he believed were necessary for the disease: (1) traction of the nail, (2) softening and maceration of epidermis under the free edge, due to constant moisture or chemical exposure, (3) predisposition or low-grade infection, and (4) overzealous cleaning.

The diagnosis is made by history of painless, increasing separation of the nail from its bed with progression and remission until the separation reaches almost to the lunula. It is not characteristic for the entire nail to detach.

Treatment of onycholysis is poorly understood. The multiplicity of factors was no direct help in treatment until 1931, when Templeton was able to clear up his five cases by occupation changes. However, Vieceili's predisposing factors cannot be denied.

CASE REPORT

A nineteen year old, red haired, apparently healthy student nurse was on duty giving baths in adult wards daily for six months, when she noticed separation of the nail of the little finger of the left hand. The following month she took a short vacation and had a mild remission of the symptoms. She returned to the same duties, and an exacerbation recurred so that in three months all the nails had become separated, some to more than three-fourths the distance to the lunula. She was shifted to other duties where baths were not given, and enjoyed some remission. Three months later she was again placed on duty giving baths and an exacerbation recurred. The toe nails became hard and thick in the fourteenth month.

Past history included pneumonia and typhoid at seven years of age with complete recovery, chickenpox at eleven years, measles at thirteen years, sprained ankle at seventeen years, and in her eleventh month of training she had a mild epigastric pain which was relieved after one day hospitalization. Catamenia began at fourteen years, and was of regular twenty-eight day cycles, periods lasting six days with every other period being painful. She was emotionally stable and an average student.

Her family history revealed no intermarriage for three generations. Her mother was fifty years old, living and well, and of Irish-English descent. The father was also fifty years of age, living and well, and of Belgian descent. Two sisters and one brother, all younger, were living and well. Family history revealed no diabetes, goiter or thyroid disease, insanity, heart disease or tuberculosis for at least two generations.

Physical findings were essentially normal except for the finger nail separations and thickened toe nails. Blood pressure was 124/78. Urinalysis showed negative albumin and sugar.

	Per cent
Fasting blood sugar showed	80 mgm.
N. P. N.	41.0 mgm.
Creatinin	1.3 mgm.
Uric acid	3.0 mgm.
Calcium	10.0 mgm.
B. M. R.	Minus 18.0

Blood Wassermann and Kahn were both negative. Twenty-four hour urine specimen was negative for arsenic.

CONCLUSIONS

This case history clearly coincides with Vieceili's four factors:

1. Traction on the nails occurred as she gave baths and changed bed clothing.
2. Softening and maceration of the epidermis at nails' free edge occurred from constant use of soap and water while giving baths.
3. Predisposition as upheld by the low metabolic rate and mildly increased nonprotein nitrogen and uric acid at the upper limit of normal, all of which indicate a mild metabolic disturbance.
4. Overzealous cleaning to remove dirt from beneath separated nail. She finally was granted permission to wear dark nail polish to cover the dirt which accumulated beneath the nail.

I believe this case demonstrates that a systemic metabolic predisposition occurs concurrently with occupational softening, maceration and traction to produce the disease.

5. Neugebauer, quoted by White, P. R.: *Occupational Affections of Skin*, p. 34. H. K. Lewis & Co., London, 1915.

6. Arzt, L. and Hansmann, W.: *Zur Kenntnis der Hydroa, Strahlentherapie*, 1:444, 1920.

7. Gilbert, quoted by White, R. P.: *vide supra*.

8. Frieboes, W.: *Lehrbuch der Haut-und Geschlechts-Krankheiten*, p. 176. F. C. W. Vogel, Leipzig.

9. Templeton, H. J.: *Onycholysis*, *An Industrial Dermatoses*, J. A. M. A., 97:1950, Dec. 26, 1931.

10. Steiner, quoted by Krumer, L. in Arzt, L. and Zieler, K.: *Die Haut-und Geschlechtskrankheiten*, 2:94. Urban & Schwarzenberg, Berlin, 1934.

11. Strauss, M. J.: *Onycholysis and Onychornadesis*, *Arch. Dermat & Syph.*, 26:644-655, Oct., 1932.

12. Vieceili, J. D.: *Onycholysis*, *Arch. Dermat & Syph.*, 33:697-699, April, 1936.

CHRONIC SEPSIS AND SYSTEMIC DISEASE

MERVYN J. FUENDELING, M.D.

TWIN FALLS, IDA.

Since the advent of the works of Hunter^{1,2} and Billings³ there has been a tacit agreement in most medical literature on the relation between focal sepsis and chronic systemic disease. It is generally accepted that a small focus of infection may be capable of producing considerable alteration in the function and even structure of remote tissues. Predominant among the incitant agents of such foci are the hemolytic and nonhemolytic streptococci. Granted that a streptococcus has been obtained in pure culture, one can rarely predict from its cultural reactions and serologic tests what disease will be produced when the organism is injected into a susceptible host. Further, the same strain may in different individuals be associated with entirely different clinical manifestations. It is not yet possible to select from a group of streptococci cultured from a particular focus which ones are important in the production of the patient's symptoms.

While Koch and the earlier bacteriologists held to the fixity of species and considered that a given organism had once and for all a certain set of biologic properties, it is now known that bacteria change their structure, their metabolic activities, their specificities and their capacities for infection with considerable ease.^{4, 5, 6, 7, 8, 9, 10}

It is known that serologic and antigenic specificities are complicated interdependent functions. Their complexity is further exaggerated by the ease with which specific factors are altered. Laboratory

investigation reveals that the structure of bacterial proteins is readily changed by treatment with heat or chemicals.¹¹

Immunization appears to be the method of choice in combating chronic bacterial infection. However, in reviewing the literature, one is confronted with an imposing series of failures interspersed with good results. There also appears from time to time suggestive notations that the less one manhandles an organism in preparing the antigen, the better the immunization seems to be.^{12, 13, 14}

These factors may be of importance in the practical approach to the immune therapy of chronic infections. The implications are: (1) the possibility that bacteria isolated from a primary focus such as an antrum may dissociate during the process of implantation in a secondary focus such as the biliary tract and colon. The total antigenic spectrum in the secondary focus may thus be qualitatively and quantitatively quite different from that exhibited by the organisms in the primary focus. The result to the infected host is an increase in the number of antigenic entities to which he may be exposed. (2) It will not suffice to prepare vaccines for treatment from strains which are not antigenically the equivalent of those occurring in the host.^{15, 16} Dissociation on media must be limited and bacteria for inclusion in a vaccine should be selected with as much attention to dissociation as was previously paid to identification of species.

The clinician should not accept the finding of one organism as being responsible for the individual's symptoms. Too often a vaccine is prepared and, should it fail to produce the anticipated results, the principle of immunization is condemned. Likewise, if all accessible foci have previously been removed, little consideration is given to a nonpurulent sinusitis, periodontal disease.^{17, 18, 19} residual alveolar infection, an infected biliary tract, colon, etc. The surgical removal of such foci is limited. However,

1. Hunter, W.: Oral Sepsis as Cause of Disease in Relation to Medicine. *Brit. Med. J.*, 2:1358, 1904.

2. Hunter, W.: Role of Sepsis and Antisepsis in Medicine. *Lancet*, 1:79, 1911.

3. Billings, F.: *Focal Infection*. Appleton & Co., New York, 1917.

4. Arkwright, J. A.: Variation in Bacteria in Relation to Agglutination by Salts (and by Specific Sera), *J. Path. & Bact.*, 23:358, 1920; Variation in Bacteria in Relation to Agglutination by Salts (and by Specific Serum), *J. Path. & Bact.*, 24:36, 1921; Source and Characteristics of Certain Cultures Sensitive to Bacteriophage. *Brit. J. Exper. Path.*, 5:23-33, Feb., 1924.

5. Dawson, M. H.: Transformation of Pneumococcal Types; Conversion of R Forms of *Pneumococcus* into S Forms of Homologous Type, *J. Exper. Med.*, 51:99-122, Jan., 1930; Transformation of Pneumococcal Types; Interconvertibility of Type Specific S *Pneumococci*, *J. Exper. Med.*, 51:123-147, Jan., 1930.

6. Dawson, M. H. and Sia, R. H. P.: In Vitro Transformation of Pneumococcal Types, *J. Exper. Med.*, 54:681-699, Nov., 1931.

7. Griffith, F.: *Min. Hith.*, Rep. Publ. Med. Subj., 18, 1923; Significance of Pneumococcal Types, *J. Hyg.*, 27:113, 1928.

8. Hadley, P.: Microbic Dissociation, *J. Infect. Dis.*, 47:1-312, Jan., 1927.

9. Reimann, H. A.: Variations in Specificity and Virulence of Pneumococci during Growth in Vitro, *J. Exper. Med.*, 41:587-600, May, 1925; Reversion of R to S *Pneumococci*, *J. Exper. Med.*, 49:237-249, Feb., 1929.

10. Todd, E. W.: Further Observations on Virulence of Hemolytic *Streptococci* with Special Reference to Morphology of Colonies, *Brit. J. Exper. Path.*, 9:1-6, Feb., 1928.

11. Krueger, A. P. and Nichols, V. C.: Denaturation of Staphylococcal Proteins, *J. Bact.*, 38:409, 1934.

12. Report of the British Antityphoid Committee, 1912.

13. Farwley, J. M., Stallings, M. and Nichols, V. C.: New Pertussis Antigen, *J. Pediat.*, 4:179-183, Feb., 1934.

14. Felix, A. and Pitt, R. N.: New Antigen of *E. Typhosus*; its Relation to Virulence and to Active and Passive Immunization, *Lancet*, 2:186-191, July 28, 1934.

15. Heidelberger, M.: Chemical Nature of Immune Substances, *Phys. Rev.*, 7:107, 1927.

16. Kauffman, F.: Latest Results of Typhoid Serology, their Bearing upon Production and Testing of Typhoid Vaccines and Therapeutic Sera as Well as upon Typhoid Diagnosis, *Quart. Bul. Health Organ., League Nations, Geneva*, 4:482, 1935.

17. Burket, L. W.: Studies of Apices of Teeth, *Yale J. Biol. & Med.*, 9:271, Jan., 1937.

18. Burn, C. G.: Comparative Bacteriologic Studies of Human Blood, Viscera and Teeth Obtained at Necropsies, *Arch. Path.*, 25:643, 1937.

19. Fuenkeling, M. J. and Cartney, T. L.: Roentgenographic Diagnosis of Vital Pulp Infection as Confirmed by Bacteriologic Examination, *J. Roent. and Rad. Ther.*, 40:386, 1938.

the dictates of good medicine should include the elimination of all pathogenic microorganisms in patients presenting obscure disease entities with demonstrable sepsis and without organic lesions. It is quite possible that these pathogens may be the cause of, or augment the pathologic physiology in these cases (fig. 1).



Fig. 1. Chronic periodontal disease. Note thickened pericemental membranes, broken continuity of these membranes at apex of tooth, and involvement of cancellous bone structure.

In an analysis and follow-up of the unsatisfactory results obtained by me²⁰ in the treatment of a series of patients with systemic manifestations from focal sepsis by autogenous antigen solutions, it was concluded that in many instances these were attributable to an inadequate bacteriologic investigation. A number of these patients are included in the present series.

The great diversity of general symptoms in the chronic state is unfortunately often accompanied by a lack of localization of physical manifestations. The plan of examination has, therefore, been made inclusive enough to establish a definite relationship to the associated focal sepsis, to ascertain as far as possible the degree of physiologic disturbance, and to eliminate organic lesions. All potential foci of infection are cultured, namely, dental pulp, alveolar tissue, curettings from areas of alveolar rarefaction, tonsils or tonsillar remnants, antra, bile, cervix, prostatic secretions, mucosa of the cleansed colon, draining wounds, etc. (table 1).

From the pathogenic microorganisms recovered from these foci an autogenous undenatured bacterial antigen is prepared after the method of Krueger.²¹ This is standardized to 0.15 mgm. total undenatured protein nitrogen content per mil.

	Per cent
Same pathogenic organisms in both dental pulp and alveolar tissue	39
Positive dental pulp culture and negative alveolar tissue culture	12
Negative dental pulp culture and positive alveolar tissue culture	3
Different pathogenic organisms recovered from the dental pulp as compared to the alveolar tissue.....	13
Different pathogenic organisms recovered from the dental pulp as compared to the alveolar tissue but one invader common to both.....	33

Table 1. Analysis of bacteriologic findings in 100 cases of chronic periodontal disease. In 42 per cent of these there exists two potential foci of infection. In 88 per cent a possibility of residual alveolar infection remains, following complete extraction of teeth.

These antigens contain, in addition to the native bacterial proteins, the associated cellular carbohydrates both in solution and in the form of a highly dispersed colloidal phase.

The plan of administration of the antigen is individual. Intradermal and subcutaneous injections are given in separate adjacent areas on alternate days. The amount of antigen given intradermally is 0.1 cc. and is maintained at this level. The initial subcutaneous dose is 0.1 cc. and may be subsequently increased according to indications. In the majority of patients this amount produced a prompt sustained improvement. If, after six injections, no improvement is noted, the subcutaneous dose is increased 0.1 cc. Further increase is commensurate with the patient's response. As improvement is maintained, the interval of administration is lengthened (fig. 2.)

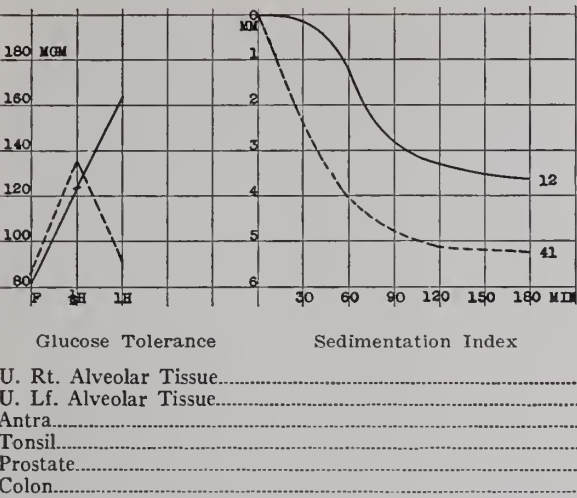
After the first twenty treatments, the bacteriologic examination is repeated. If the original organisms are found, the antigen solution is assayed. Denaturation of these solutions through improper handling of antiseptics is very easy. Should the bacterial flora have changed, a new antigen solution is prepared. A change in the streptococcal flora in the individual is not uncommon, particularly where more than one streptococcus was isolated. This process of bacteriologic reexamination is continued at regular intervals until no pathogenic microorganisms are recovered. The antigen is then administered at monthly intervals over a reasonable period of observation. Coincident with the administration of the hypodermatic antigen, topical immunization²² of an infected antrum, bowel or cervix is carried on with one-half strength antigen made with 1 per cent peptone in Locke's solution. These are applied directly to the cleansed mucous mem-

20. Fuendeling, M. J.: Specific Immunization in Treatment of Chronic Infections. *Northwest Med.*, 35:119-126, April, 1936.

21: Krueger, A. P.: Method for Preparation of Bacterial Antigens. *J. Infect. Dis.*, 53:237-238, Sept.-Oct., 1933.

22. Besredka, A.: Local Immunization. Tindal and Cox, Belliere, 1927.

23. Proetz, A. W.: Displacement Method. *Annals Publishing Co.*, St. Louis, 1931.



HGB											
Onset	B.P.	B.M.R.	R.B.C.	Per cent	Leuc.	B.	E.	Stab	Seg	Lymph	Mono
Trt.	178/106	+14	3,900,000	82	5650	3	—	3	30	64	—
3 months	152/98		4,550,000	80	7150	2	2	17	33	32	12
6 months	128/84		5,000,000	95	7600	—	1	4	62	28	5
9 months	120/76	+1	5,100,000	95	7000	1	2	5	68	22	2

Fig. 2. Comparison of findings in male, age 60, presenting myocarditis, hypertension, sinusitis and prostatitis, with normal kidney function. Solid line represents onset of treatment, broken line after ten months of therapy. At this time bacteriologic findings were negative.

branes of the colon and cervix and by means of the Proetz displacement technic²³ to the antra.^{24, 25,26, 27} Occasionally there is a recurrence of symptoms or a noteworthy failure of improvement. This is attributable to: (1) reinfection with another patho-

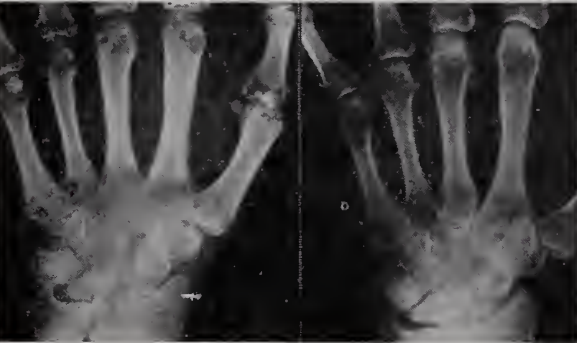


Fig. 3. Infectious arthritis of four years duration after 14 months of combined therapy. Regeneration of diseased joints was accompanied by full functional recovery.

gen, particularly in hypersensitive individuals; (2) an organism which, after the removal of a coexisting pathogen, becomes predominantly pathogenic; or (3) a variant of an original bacterial invader. For example, a patient may present a single focus

of type gamma. Quite naturally the predominant invaders will be in greater antigenic concentration in the antigen solution and it is possible that the concentration of the antigenic factors of the type gamma streptococcus will be below the threshold for effective clinical use. This "secondary" gamma focus, upon removal of the "primary" alpha foci, not only serves as a source for sensitizing material but can spread from its focus and establish numerous metastatic foci. The abolition of the "primary"

bacterial invader only, affords no hope of permanent relief (fig. 3). Throughout the course of treatment, periodic examination of the total and differential leukocyte count is made. As treatment progresses, this affords an index of the ability of the patient to respond to therapy.

In general, the patient is advised with respect to exercise, fresh air and rest. A normal high caloric diet is supplemented with adequate vitamin intake. Coexisting endocrine dysfunctions and anemia are treated as indicated.

RESULTS

It is difficult to evaluate the therapeutic effects of vaccines in general. The clinical results obtained in this group have been so favorable that little doubt of their efficacy exists. Most important, perhaps, has been the vigilance exercised in detecting the disappearance of the organisms or a shifting bacterial flora and the use of freshly isolated strains in the preparation of the antigen solution.

One hundred cases have been reviewed for this report. The age range is from fourteen to sixty-two years. The minimal period of observation has been one year, the maximal, four. The clinical entities and the results of treatment are presented in table 2.

In group A there is a sustained functional recovery without recurrence of the previously abnormal objective findings. Patients classified in group B are asymptomatic but with objective results below the desired optimal. It is noteworthy that in this group the incidence of constitutional deficiencies and

24. Kracaw, F. C.: Chronic Sinus Infection; New Method for its Treatment. California & West. Med., 40:228-234, April, 1934; Treatment of Chronic Sinus Infection with Undenatured Bacterial Antigens. Laryngoscope, 46:26-31, Jan., 1936.
25. Hosmer, M. N.: Chronic Parnasal Sinusitis; Treatment with Undenatured Bacterial Antigens. California & West. Med., 43:24-27, July, 1935.
26. Womack, D. R.: Use of Undenatured Bacterial Antigen (Krueger). Laryngoscope, 45:554-559, July, 1935.
27. Lemon, A. N.: Use of Undenatured Bacterial Antigen in Chronic Suppurative Sinusitis. Laryngoscope, 48:420-426, June, 1938.

Presenting Syndrome	No. of Cases	Results		
		A	B	C
Rheumatism associated with sinusitis, gastrointestinal distress and/or precordial pain	18	13	5	—
Sinusitis associated with asthma and chest complaints	5	3	2	—
Precordial distress, fatigue, gastrointestinal dysfunction definitely related to an acute infectious episode with or without adventitious heart sounds.....	10	10	—	—
Gastrointestinal dysfunction associated with an infection of the upper part of the respiratory tract (usually sinuses) or dental infection and/or extreme fatigue and malaise.....	21	16	5	—
Arthritis	27	21	4	2
Cardionephritic symptom complex accompanied with periodic gastrointestinal distress, fatigue, with or without vascular changes, hypertension and/or albuminuria	4	—	3	1
Entero-renal dysfunction. (Indigestion, nocturia, etc.)	6	2	3	1
Fatigue and vague neuromuscular symptoms	9	5	4	—
Total	100	70	26	4

Table 2. Descriptive legend in text.

hereditary tendencies is higher. No symptomatic relief was obtained in group C, even though negative bacteriologic findings have been obtained.

Objectively, recovery is based upon normal hematologic findings, the restoration to within normal limits of previously abnormal functional tests, and the negative bacteriologic examination for pathogenic microorganisms. There has been no reinfection in a given focus with the original bacterial invader in any of the cases.

COMMENT

The concurrent presence of both symptoms and microorganisms would indicate that the bacteria are inadequate in antigenic properties to produce clinical immunization by antibody formation. The production of antibodies as measured by the appearance of agglutinins, precipitins, complement fixing antibodies, etc. is rather irregular with undenatured bacterial antigen. The disappearance of the bacteria may be due to increased tissue immunity. That the cellular immunity produced is not of a nonspecific nature is attested by the observation that it is necessary to use an antigen from the specific organisms of the individual. These factors do not preclude the possibility that desensitization may play a role, i.e., that immunity only is involved. Undenatured bacterial antigens present the unmodified bacterial proteins from the host's specific strain or strains of pathogenic bacteria.

The highly specific focal reactions and exacerbation of symptoms experienced, when an excessive dose of the streptococcal antigen is administered,

suggests that the sepsis in these cases may be the cause of the symptoms.

That bacterial allergy may play a role in the production of the symptoms is plausible. Used in a widely accepted sense, this term covers a group of reactions characterized by an accelerated response to a particular bacterial antigen, irrespective of the balance of harm or benefit accruing to the host from the altered response. It is recognized that the allergic state may serve to increase the individual's resistance to infection. For example, in tuberculosis Koch²⁸ proved that the presence of the tubercle bacillus in the host's tissues brought about an increased sensitivity, associated with an increased vigor of response to reinfection. Not only do the tissues possess an exaggerated reactivity to the organisms itself, but to the bacterial endotoxins or products of metabolism, e. g., tuberculin. Such substances have little effect on normal tissues but may evoke pronounced reactions in almost any tissue after some bacterial focus has served as a sensitizing center.

At the onset of treatment large doses of the accessory therapeutic agents are required. Apparently the utilization and absorption of such substances is interfered with by the underlying pathologic process. As treatment progresses, there is observed, closely associated with the negative bacteriology, a reversing of the pathologic physiologic processes and a gradual return to normal values. The adjunction of medicaments is then greatly reduced or eliminated.

CONCLUSIONS

From a study of one hundred patients, presenting various disease manifestations attributable to chronic sepsis, in whom the basis of treatment was immunization employing autogenous undenatured bacterial antigen (Krueger), subjective and objective evidence justifies the following conclusions:

1. A maximal physical and functional recovery is possible from a combination of empirical and specific therapy.

2. An immunity to the coexisting microorganisms can be induced by the adequate use of a specific bacterial antigen. This appears to be of a permanent nature.

3. A reversal of the accompanying pathologic physiology accompanies the treatment.

4. This reversibility seems to depend upon the total elimination of the toxemia resulting from the chronic sepsis.

28. Koch, R.: Fortsetzung der mittheilungen ueber ein heilmittel gegen tuberculose. Deutsch. Med. Woch., 17: 101, 1891.

PEPTIC ULCER AND PELLAGRA

REPORT OF THREE SURGICAL CASES

DAVID METHENY, M.D.

MARY W. NORTHPROP, M.S.

HELEN KANTNER BROWN, B.S.

SEATTLE, WASH.

With all the present emphasis on vitamins there are few medical men who do not recognize marked deficiencies in nutritional states, but when the patient has symptoms that seem to require surgery for relief, and the nutritional deficiencies are less marked, they are apt to remain undiagnosed or at least neglected.

This is unfortunate. With such fundamental changes in cellular metabolism healing and convalescence will not be normal. In fact, the patient can easily lose his life for want of some substance such as nicotinic acid or cevitamic acid. For example, fistulae and evisceration do follow surgery upon the gastrointestinal tract.¹ These disasters are just as often an expression of faulty nutrition as of poor surgical technic. These states should be treated before surgery.

The failure to diagnose the nutritional states before surgery is unfortunate in another respect. It will sometimes happen that after treatment of the nutritional state the patient will be so much improved that surgery will be unnecessary. We shall report three cases of peptic ulcer, one duodenal, one gastric and one gastroduodenal, accompanied by pellagra and clinical avitaminoses.

CASE REPORTS

Case 1. Mrs. M. R., white, aged 55, was admitted to King County Hospital June 26, 1935. About fifteen years before a diagnosis of duodenal ulcer had been made. Since that time she had omitted from her diet almost all meat and eggs, all fruits and vegetables, all whole cereals and all fats, including butter. She had apparently been subsisting on a diet of refined cereals with some milk. This diet was undoubtedly low in protein, iron and vitamins.

During the past four months she had had an exacerbation of her gastrointestinal distress, characterized by nausea, vomiting of blood and blood in the stools. She was markedly emaciated with an estimated weight of 80 pounds, a loss of 60 pounds. The skin was dry and rubbery and could be easily picked up in large folds. The patient stated she had first noticed this condition in May, six weeks prior to admission. On examination it was found that the stomach was markedly dilated and peristalsis was visible from left to right and up toward the ribs on the right side. There was no abdominal rigidity or tenderness.

Treatment. Gastric lavage produced over 4000 cc. of greyish-black watery material. Three days after admission gastric analysis was strongly positive for occult blood.

During her first four days in the hospital she was given no food by mouth. Then the diet orders were changed frequently, liquid, soft and bland diets being given at various times but no record was kept of her food intake for the

first month she was in the hospital. There were many interruptions due to roentgen and laboratory studies and to the patient's periods of nausea and distention.

On the ninth hospital day the patient was nauseated and gastric lavage was repeated. This time 4300 cc. of fluid was removed, more than ten per cent of her body weight.

On July 10 she was given a blood transfusion. On July 15 gastroenterostomy was done for duodenal ulcer which was present without obstruction. The stomach was enormously dilated.

The patient's immediate postoperative condition seemed good. Modified Sippy diet was ordered on the second day, but later in the day the gastroenterostomy seemed not to be functioning properly. The abdomen became distended and she started to vomit. Dehydration became more marked. On this day continuous gastric suction was started. On the third postoperative day the patient's condition was declared critical.

On the sixth postoperative day there started a series of attacks, attributed to cerebral accidents, of twitching of the face and convulsions with the patient quite disoriented. Recovery usually took place within an hour. The suggestion was made that these attacks might be due to epilepsy or tetany.

On the eleventh postoperative day, her condition seemed to be growing worse. She was confused and lethargic, dehydrated and suffering from diarrhea.

On the thirteenth day it was suggested that certain of her symptoms were characteristic of pellagra, and a regime of high vitamin intake was instituted. At this time the work on the use of nicotinic acid in the treatment of pellagra had not yet been published and the pure vitamins were not available for use in treatment. The patient was given liver extract intramuscularly and brewer's yeast tablets by mouth. Every possible effort was made to give her a diet high in vitamins and in protein. Gastric lavage was discontinued.

Her recovery was slow but uneventful. Within a few days her mind cleared. On August 7, three and one-half weeks after operation and ten days after institution of high vitamin diet, she was up in a chair. On the same day she had a formed stool for the first time and the note was made that the diarrhea was clearing. Her food intake constantly improved. During the first week in August, she took about 1500 calories per day with difficulty. Four weeks later, she took 2900 calories per day with relish.

She was discharged September 3, weighing 99 pounds and appearing much less emaciated than upon admission to the hospital. She was subsequently seen several times in the out-patient department, where she was advised about continuing on high-vitamin diet. She was last seen by the dietitian, February 21, 1936, about seven months after operation, when her weight was 117 pounds and her general condition apparently good. She was seen again in March, 1939, in the medical clinic and her condition was considered satisfactory at that time.

Final diagnosis: Duodenal ulcer and pellagra.

DISCUSSION

The symptoms which brought M. R., case 1, to the hospital and engendered her surgery were mostly those of gastric retention. The roentgenogram showed an enormously dilated stomach, but with scarcely any residue after six hours, showing that no real obstruction existed. It now seems obvious, on the basis of her dietary history and the subsequent progress of the case, that primary symptoms were caused by an avitaminosis rather than

1. Metheny, D.: Nutritional Deficiencies Complicating Surgery of Gastrointestinal Tract. *Northwest Med.*, 37: 349-350, Nov., 1938.

by the ulcer. The operation revealed the ulcer but no obstruction. The operation also made her symptoms much worse until the avitaminosis was corrected. The first month she was in the hospital the condition was aggravated by an inadequate vitamin and protein intake. Reeducation of the patient in the use of an adequate diet and curing her fear of taking certain foods proved to be one of the major problems in therapy during convalescence.

Case 2. Mr. T. C., white, aged 27, was admitted to Swedish Hospital March 21, 1939, for a recent traumatic inguinal hernia. This patient had been employed in a restaurant but had found the work increasingly difficult, due to progressive loss of strength. About two months prior to admission he had developed a sore tongue, noticed vague pains in the back and legs and marked weakness on exertion.

His food habits were enlightening. The patient's relatives offered the information that he had "never been strong" and that he had been allowed his own whims regarding food. The patient related a history of having started to drink alcoholic liquors and smoke cigarettes at the age of fifteen. His diet consisted largely of fried potatoes, fried meats, spaghetti, oatmeal, pancakes, pastries, condiments and coffee. He also included large quantities of milk in his diet which probably prevented the deficiency diseases from gaining more headway. Noticeably absent were whole grain cereals, eggs, fruits and vegetables.

Two days before admission the patient had tried to lift a garbage can, but because of his weakened condition it had slipped and fallen on his lower abdomen. Examination revealed some rigidity of the lower right quadrant, tenderness over the right inguinal canal, an impulse on coughing, no masses, and a fiery red, glossy, smooth and fissured tongue.

Routine blood examination revealed an unexpected condition: hemoglobin 35 per cent, 3,000,000 erythrocytes, 9,900 leukocytes. The blood smear showed nucleated red blood cells as is found after severe hemorrhage. No evidence of intraabdominal bleeding could be found. His tongue suggested pernicious anemia, but this was discounted by presence of free hydrochloric acid in the stomach. Further questioning revealed a history of melena and intermittent midmeal epigastric distress with food relief. In view of this a roentgen examination was made which showed the presence of a small gastric ulcer which evidently had bled. Thus the diagnosis of traumatic hernia was complicated by pellagra and avitaminosis on the one hand, and bleeding gastric ulcer with anemia on the other.

Before surgery to repair the hernia was attempted, the patient's general condition had to be improved. The diet orders were as follows: on admission, soft diet; beginning one week later, six feedings daily, low residue, to include meat. At this time also vitamin supplements were started, including feosol tablets four times daily, Lederle vitamin-B complex 1 cc. daily, and Lilly's liver extract 3 cc. intramuscularly to be decreased to 1 cc. daily.

Six days after institution of the high vitamin regime a herniorrhaphy was done.

The liver and vitamin-B medications were continued immediately following surgery. After the postoperative nausea was controlled, fluids were given and then a soft to full diet with emphasis on adequacy.

The patient began to improve quickly, following the start of vitamin supplements and adequate diet. On the third day the nurse reported the tongue and mouth were less sore. After two and one-half weeks, with the aid of

two blood transfusions, the hemoglobin was 82 per cent and the postoperative course was uneventful except for a cystitis. This followed catheterization and was readily controlled by neoprontosil.

The patient was discharged April 24, 1939, one month and three days after admission to the hospital. Two months later he reported that he seemed in better health than at any previous time. He had gained twenty pounds and was following the instructions he received while in the hospital regarding proper food habits. On July 5, 1939, a roentgenogram showed no evidence of the gastric ulcer which had been present March 27.

DISCUSSION

T. C., case 2, had been on an inadequate diet for about ten years. He finally developed symptoms of avitaminosis that suggested pellagra. In addition to this he developed a bleeding gastric ulcer, bleeding severely enough to reduce his hemoglobin to 35 per cent. The anemia caused weakness, with the result that he slipped and developed a traumatic hernia. In this case it was necessary to correct anemia as well as avitaminosis. Following adequate treatment before surgery, the postoperative convalescence was uneventful, and the roentgenogram shows the gastric ulcer to have disappeared.

Case 3. Mr. F. P., white, aged 49, was admitted to King County Hospital April 17, 1939. He had had four previous hospitalizations: in 1915 for gastroenterostomy, apparently to relieve peptic ulcer; in 1921 for appendectomy, at which time the gallbladder was dissected free from a mass of adhesions which surrounded it; and in 1935 for hemorrhoids. At the time of the latter admission he complained of anorexia, dry mouth, cough and some tenderness of the epigastrium, and stated that he had had "stomach trouble" for seventeen years. He was advised in the use of a bland diet. He reappeared the next year suffering from acute abdominal distress and was admitted to the hospital. A diagnosis of partial obstruction caused by postoperative adhesions was made. He stayed two days, felt better and went home.

He had not been hospitalized for three years when, on March 9, he came to the out-patient department, complaining again of epigastric pain. The diagnosis of recurrent ulcer was made. He returned two weeks later and was referred to the dietitian for instruction in the use of bland diet.

On April 11 he was again seen in the clinic. His condition was unimproved. He was put on a first week Sippy regime.

On April 17, out-patient treatment having apparently accomplished nothing, he was referred for admission to the hospital. The admitting intern made the following significant observations: "Chief complaint, abdominal pain, loss of appetite. Tongue slightly smooth at edges; peculiar brownish discoloration of the hands. Complaints of considerable pain in the extremities. Impression, gastrojejunal ulcer, pellagra."

The following day the patient was seen by the staff surgeon who confirmed the diagnosis of pellagra and advised repair of a large incisional hernia. Through this hernia a tender mass could be palpated just to the left of the midline in the upper abdomen. This was thought to be a gastrojejunal ulcer, although the roentgenogram did not reveal any ulcer.

The attempt to secure a history of what the patient had actually been eating at home was not successful because of his limited command of English. All he would say was that he ate Italian food. It seems probable that this diet had been inadequate and restriction of the patient first to a bland and then to an ulcer management diet, without adequate understanding on his part, had aggravated the situation.

At this time the following vitamins were ordered: Cevitamic acid, 50 mg. B.I.D.; thiamin chloride, 100 mg. daily; nicotinic acid, 100 mg. daily. High vitamin diet was also given.

Five days later, on April 23, the patient reported feeling well, but on April 25 a laboratory report showed the blood vitamin C to be only 0.33 mg. per cent after a week of high vitamin feeding. By May 9 the patient's symptoms of gastrojejunal ulcer seemed to have cleared up. There was no abdominal tenderness and no masses were present.

On May 13, the blood vitamin C was 1.33 mg. per cent and the patient, in very good condition, was sent to surgery. A normally functioning gastroenterostomy and an incisional hernia were found. The hernia was repaired, and nothing was done to the stomach or intestine.

On the second postoperative day the patient was put on a liquid diet and vitamin therapy was resumed.

On May 24 the use of the pure vitamins was discontinued, dependence from that point being put on high vitamin diet.

On May 30, after an uneventful recovery, the patient was discharged. He was instructed in the use of high caloric, bland, high vitamin diet.

Final diagnosis: Ventral hernia, pellagra, probably gastrojejunal ulcer.

DISCUSSION

F. P., case 3, had been on a poor diet all his life. He had had three attacks of gastrointestinal disease. In 1915 he had an operation for ulcer, in 1921 he was operated on for adhesions, and in 1939 he was admitted to the hospital, presumably for another operation for ulcer, but after treatment for pellagra the ulcer vanished and all that remained to be done was the repair of a ventral hernia. Preoperative correction of the nutritional deficiency certainly made the convalescence very smooth.

From these three cases we derive two conclusions. In the first place, all three patients had symptoms of peptic ulcer and mild pellagra. We feel that the correction of the dietary deficiencies cured the ulcers before surgery in two of the cases and saved the life of the other patient after surgery. It should be noted that, while the diets were bland, they were essentially normal with frequent feedings, and alkalis were not administered.

In the second place, we are convinced that the surgeon, about to operate on a patient with an organic gastrointestinal lesion, should consider the possible existence of pellagra and associated avitaminosis. Correction of these deficiencies before surgery helps render postoperative recovery rapid and uneventful.

THE SPRUE SYNDROME*

A. H. Ross, M.D.

EUGENE, ORE.

The clinical manifestations of the sprue syndrome vary according to the duration of time after onset and treatment, or lack of adequate treatment. Snell¹ classifies tropical sprue, nontropical sprue and chronic idiopathic steatorrhea as of identical etiology and concludes that distinctions are largely artificial and that the more serious and intractable conditions are largely a matter of late diagnosis.

Hanes and McBryde² link tropical sprue, nontropical sprue and celiac disease as identical in their etiology. Celiac disease is now regarded as the infantile form of sprue, and bears the same relationship as creatinism and myxedema.

The sprue syndrome is fairly common in the United States. Snell³ reviewed their records, and reported thirty-two cases originating in the temperate zone. This series, however, presents the late manifestations such as fatty diarrhea, glossitis, wasting, metabolic and nutritional disturbances, and neurologic involvement. Weller⁴ issues a very timely warning urging the early diagnosis of sprue and calls attention to the fact that the clinical picture of early sprue is markedly different from the usual or classical accounts of this disturbance. Thus it would appear that we must revise our concept of sprue as pictured in the classical textbook description and regard such spectacles as the end-results of inexcusable diagnostic failures. *Any long continued diarrhea, not due to a specific organism, associated with a macrocytic anemia and free HCl, should be considered as an early case of sprue.*

At the outset we must consider sprue as a deficiency disease. Ashford⁵ found monilia psilosis present in 75 percent of 225 cases with sprue and only 1.3 per cent of 223 patients with conditions not suggestive of it. But he considers sprue as an infection with monilia psilosis made possible in a soil prepared by nutritional unbalance.

Reed⁶ says that the sprue syndrome overlaps that of pellagra and further believes that the combined

*Read before a meeting of North Pacific Society of Internal Medicine, Vancouver, B. C., Sept., 1939.

1. Snell, A. M.: Tropical and Nontropical Sprue (Chronic Idiopathic Steatorrhea); their Probable Interrelationship. *Ann. Int. Med.*, 12:1632-1671, April, 1939.

2. Hanes, F. M. and McBryde, A.: Identity of Sprue, Nontropical Sprue and Celiac Disease. *Arch. Int. Med.*, 8:1-16, July, 1936.

3. Snell, A. M.: Vide 1 supra.

4. Weller, G. L., Jr.: Early Diagnosis of Nontropical Sprue. *Am. J. Digest. Dis.*, 5:254-257, June, 1938.

5. Ashford, B. K.: Relation of Monilia Psilosis to Tropical Sprue. *Porto Rico J. Pub. Health & Trop. Med.*, 6:310-333, March, 1931.

6. Reed, A. C. and Wycoff, H. A.: Common Picture of Sprue, Pernicious Anemia and Combined Degeneration. *Am. J. Trop. Med.*, 6:221-237, May, 1926.

myelinic degeneration of the cord and pernicious anemia are intimately related to sprue etiologically, therapeutically and pathologically. McLester calls attention to the difficulty of categorically labeling these patients because of the possible kinship between sprue, pellagra, myelinic degeneration of the cord and pernicious anemia.

Suarez⁷, in a clinical and hematologic review of one hundred and fifty cases, says that the blood volume index is never below one, and that anemia is macrocytic, usually hyperchromatic, occasionally hypochromatic, very rarely normocytic and never microcytic. Castle also states that the anemia is macrocytic.

A similarity further exists in the blood findings of sprue, pernicious anemia, and the anemias of pregnancy, as well as bothrioccephalus latus, in that these are all characterized as macrocytic in type and consequently give an increased cell volume. Pellagra sometimes gives a similar blood picture. However, in sprue free HCl is usually found. Clinically we might liken the similarity to differences in area and say that in pellagra the cutaneous manifestations are predominant; in pernicious anemia the disturbance of blood forming organs is predominant; and in sprue the disturbance of the gastrointestinal tract is more dominant, although there are other findings common to all.

The question naturally arises, "Why should sprue develop instead of pernicious anemia, combined degeneration of the cord or pellagra?" General consensus of opinion is that sprue may be due to any one or a combination of three conditions: (1) diet deficiency or the extrinsic factor, (2) deficiency of the intrinsic factor, also present in pernicious anemia, (3) inability to absorb the product of the first two. In other words, the extrinsic factor plus the intrinsic factor gives a product necessary for the prevention of sprue.

Castle⁸ convincingly demonstrates that the intrinsic factor is undoubtedly absent in sprue as well as pernicious anemia. His experiments showed it was usually improved with a diet rich in vitamin B₂ (beef muscle, eggs, autolyzed yeast, rice polishings, and wheat germ). This diet plus liver was often specific but sometimes large doses of liver by mouth were not specific, but when given parenterally, a typical response in reticulocyte formation followed. Instead of giving liver injections, a similar response

resulted when normal gastric juice was added to the rich vitamin B₂ diet. So he concluded that the intrinsic factor was common to both sprue and pernicious anemia in many instances and that it was not so much a deficiency in diet as a deficiency in reaction in the gastrointestinal tract or elsewhere in the body.

Glossitis is usually present in varying degrees, depending upon the stage of development, and when absent is called incomplete sprue. Manson-Bahr and Willoughby⁹ classified 22 per cent of their 200 cases as incomplete.

The predominate, presenting symptom is abdominal distress and diarrhea. Miller and Barker¹⁰ preface their article on the clinical picture of sprue by quoting two passages from Job: "My bowels boiled, and rested not; the days of affliction prevented me." "Behold, my belly is as wine which hath no vent; it is ready to burst like new bottles." The movements are usually painless, voluminous, of semi-formed consistency, and are described by the British as "cow pad." There is usually flatulence and abdominal distention. The appetite is good. The fatty stools are not an early finding but are prominent in late cases such as chronic idiopathic steatorrhea.

Woltman and Heck¹¹ state that the nervous manifestations of sprue are usually mental depression. They quote from a report by Suarez on a patient who lost his ideas of persecution and hallucinations after treatment with liver had been instituted, and quote another report in which the clinical findings indicated subacute, combined degeneration of the cord which disappeared after intensive intramuscular administration of liver extract. Reed mentions the brownish discoloration of the skin and also the nervous irritability.

Roentgen findings of the gastrointestinal tract are characteristic in the early case. I quote from Weller¹²: "The progress of the barium taken by mouth and observed under the fluoroscope is exceedingly rapid in sprue, once it has left the stomach. Usually in only three or four hours the head of the column of barium is found in the sigmoid. Not infrequently moderate amounts of the barium have been eliminated by this time."

9. Manson-Bahr, Philip, and Willoughby, H.: Studies on Sprue with Special Reference to Treatment, Based on Analysis of 200 Cases. *Quart. J. Med.*, 23:411-442, July, 1930.

10. Miller, D. K. and Barker, W. H.: Clinical Course and Treatment of Sprue. *Arch. Int. Med.*, 60:385-414, Sept., 1937.

11. Woltman, H. W. and Heck, F. J.: Funicular Degeneration of Spinal Cord without Pernicious Anemia; Neurologic Aspects of Sprue, Nontropical Sprue and Idiopathic Steatorrhea. *Arch. Int. Med.*, 60:277-300, Aug., 1937.

12. Weller, G. L., Jr.: vide 4 supra.

7. Suarez, R. M.: Clinical and Hematological Review of Sprue Based on the Study of 150 Cases. *Ann. Int. Med.*, 12:529-535, Oct., 1938.

8. Castle, W. B., Rhoads, C. P., Hawson, H. A., and Payne, G. C.: Etiology and Treatment of Sprue. *Arch. Int. Med.*, 56:627-699, Oct., 1935.

As suggested above, the specific treatment is liver extract, parenterally. This is a positive therapeutic test and should always be kept in mind when treating any intractable diarrhea of undetermined origin, especially if associated with a macrocytic anemia.

REPORT OF CASE

History. Age 30, weight 145, height 5 feet, 9 inches. Came to Oregon in 1924 and since then has never been outside the state. Always well and did outdoor labor until three years ago, when he began working in the knitting room at the Woolen Mills at Brownsville. The room temperature is high and ventilation poor because draughts interfere with processing the wool. About a year ago began to lose in weight and strength. Also noticed uneasy feeling in abdomen with abundance of so-called gas, as well as flatulence, and abdominal distention. Stools were foul smelling and "gassy."

About the first of November, 1937, began to have diarrhea which has continued until the present time. During the greater portion of the time he has averaged three or four bowel movements per day, which were very voluminous and much out of proportion to food intake, but were neither watery nor formed. Defecation was not attended with pain or cramping, neither was there nausea or vomiting during these ten months. Appetite was very good and at times ravenous, yet he continued to lose weight and strength. He now weighs twenty pounds less than one year ago.

These so-called "spells" last from fifteen minutes to two days, and begin with gas on the stomach, weakness, fear of impending disaster, extreme nervousness, trembling and dizziness. He complains of bad breath after an attack. Is completely exhausted for a day or two afterwards and confined to the house. These attacks are still present but at longer intervals now, three or four weeks apart in comparison to two or three days as formerly. Wife states that he is despondent and extremely irritable. He has been sleeping poorly. His diet has always been well balanced with meat, eggs, butter, fruits and vegetables. Has never cared

for fresh milk. Has always eaten an abundance of vitamin C foods. Has never complained of sore tongue.

Physical findings. Appearance: face shows cheek bones, nervous system under tension, almost apprehensive. The most striking feature is the almost bronzy color of the skin, considering the fact that he has worked entirely inside for the past three years. This is as marked on the body as on the face and other exposed surfaces. Tongue and mucous membranes are fairly normal.

Heart and lungs negative.

Abdomen: A moderate distention, slight rigidity and general tenderness on deep palpation. Roentgen study showed stomach empty in two hours and all of the barium contents in the colon in four hours.

Stool examination by Dr. Furrer: No free fat nor fatty acid crystals found. No pus nor blood found. No ova nor parasites. Negative for streptococcus hemolyticus and amebae. Culture: *Monilia albicans* found and streptococcus viridans.

Free HCl in stomach.

Even though the anemia had cleared up according to the referring physician, the red cell count was 4.25; w.b.c. 5,600; and Hgb. 88.4 per cent. Volume index 1.4; color index 1 plus.

Basal metabolic rate minus 24 per cent. Chest film negative. Mantoux negative. Sedimentation rate 5 mm. in one hour.

Treatment. Reticulogen .75 cc., three times weekly; autolyzed yeast with an abundance of protein food.

Progress. Two months after examination patient had regained all the lost weight and returned to work. Bowel movements normal. Was under rather intensive liver therapy for four months.

COMMENT

In conclusion this case presents the typical picture of early sprue. There is a macrocytic anemia, volume index 1.4, free HCl in the stomach, voluminous stools with diarrhea continuing over a period of ten months, loss in weight of twenty pounds, and recovery under specific treatment.

TACOMA SURGICAL CLUB

The Tacoma Surgical Club will hold its annual meeting in Medical Arts Building, Saturday, March 23. Guest speaker will be Owen H. Wagensteen, Professor of Surgery, University of Minnesota.

Papers and discussions will be centered about "Complications of Abdominal Surgery," with Horace J. Whitacre as director. The following members of the society will present papers: H. G. Willard, Don Willard, H. J. Whitacre, S. F. Herrmann, R. D. Wright, J. Read, J. W. Gullikson, B. A. Brown, W. A. Niethammer, M. T. Nelson, W. B. McCreery, W. W. Mattson, H. B. Allison, L. J. Hunt, H. S. Argue, C. P. Larson, E. C. Yoder, B. T. Terry, B. D. Harrington, S. M. MacLean, W. B. McNerthney, K. S. Staats, R. C. Schaeffer, E. F. Dodds, C. R. McCreery. Dr. Wagensteen will be the official critic of papers.

The annual banquet will be served at Hotel Winthrop with Siegfried F. Herrmann toastmaster. Dr. Wagensteen will deliver an address on "The Management of Acute Intestinal Obstruction."

PRIZE AWARD CONTEST

American Association of Obstetricians, Gynecologists and Abdominal Surgeons offers an award of \$150, known as "The Foundation Prize." Eligible contestants will include hospital interns, graduate students in Obstetrics, Gynecology and Abdominal Surgery and physicians who are practicing or teaching these subjects. Manuscripts must be

limited to 5,000 words. Illustrations should be limited to such as are required for clear exposition of the thesis. The successful thesis shall become the property of the Association. All manuscripts must be in the hands of the secretary, James R. Bloss, M.D., 418 Eleventh St., Huntington, W. Va., before June 1.

OPENING FOR A DOCTOR

It is announced that Nezperce, Idaho, is without a doctor. It is located in an extensive agricultural district with a community population of about 1500. The doctor formerly practicing there has received an appointment in the army. Citizens have purchased his equipment, including X-ray and other apparatus. Locum tenens can be arranged. If interested, address Leo L. Robertson, Box 187, Nezperce, Idaho.

WILL YOU ATTEND THE NEW YORK WORLD'S FAIR?

Following the annual meeting of American Medical Association in New York June 10-14, an elaborate two-day medical program is scheduled for June 14-15. A full medical program for public interest and consumption will be held at the Fair on Saturday, June 15. Doctors planning to attend the A.M.A. meeting will wish to plan suitable time visiting this great Fair. Its medical features will offer suitable attractions which they will wish to include in their summer vacation plans.

STATE SECTIONS

OREGON

SIXTY-SIXTH ANNUAL MEETING, EUGENE, SEPTEMBER 4-7

1940 OBJECTIVES

OREGON STATE MEDICAL SOCIETY

1. An enlarged program to bring more and better medical service to low-wage groups and the people generally.

2. An expanded program of postgraduate education for physicians throughout the state.

3. An enlarged program of public relations to inform the public concerning the principles underlying high-type medical service and the evils of politically or commercially controlled medical service.

4. *Close cooperation with every agency whose program touches medical care, preventive medicine, health education or any phase of medicine.*

5. Full support of the platform of American Medical Association to improve the health and medical services of the Nation.

Every physician in the state is urged to support these objectives by membership in his local medical society and Oregon State Medical Society and participation in their activities.

LEGAL MEDICINE

LIABILITY OF PHYSICIAN FOR ATTENDING, ETC. PREGNANT WOMEN IN AN INSTITUTION WHICH IS NOT LICENSED UNDER THE OREGON MATERNITY HOSPITAL LAW

Chapter 494, Oregon Laws 1939, provides:

"Every individual, firm, association or corporation owning, operating, conducting or managing in this state any building or buildings used as a maternity hospital, maternity home, general hospital or lying-in asylum, or other place for the reception of a woman or women for care and treatment during pregnancy or during or within ten days after delivery, shall hereafter obtain a license which shall be issued by the State Board of Health and shall comply further with the provisions of this act.

The said law also provides:

"Any person who maintains, conducts or assists in maintaining or conducting, as manager or officer, any institution as described in Section 1, without first having obtained a license or permit therefor in writing, as provided in this act, and any person who attends, delivers, or otherwise prescribes for pregnant women before, during or after delivery, in any of the said institutions, not so licensed, shall be punished, upon conviction, by imprisonment in the county jail for not more than one year, or by a fine not to exceed \$500, or both such fine or imprisonment.

This law is an important public health measure, and is one which the Oregon State Medical Society can be proud of having sponsored. It may not be perfect, but it is a long step forward in creating more sanitary conditions in maternity hospitals.

Physicians have raised the question whether or not they

are liable in a damage suit, if they attend, deliver or otherwise prescribe for pregnant women in any such institution which is not licensed. In other words, whether physicians who violate the statute and are thus subject to criminal prosecution, may also be held to civil liability for damages.

This question is a very difficult one on which to give a general opinion. It is so difficult, and has so many legal ramifications, that a general opinion may be of very little assistance. Each specific case, or set of facts, will have to be examined to give an opinion as to the liability of the physician involved. Nevertheless, there are certain general rules of law which apply, and a general discussion of those rules should serve a useful purpose.

ELEMENTS OF CIVIL LIABILITY

In general, before civil liability can attach to a person, three elements must be present:

1. The defendant must owe a *duty to the plaintiff*, and must violate that duty.

2. The plaintiff must suffer some injury, *growing out of* such breach of duty of the defendant; the breach of duty must be the *proximate cause* of the injury.

3. The injury must be such as the law considers compensable (not all injuries are compensable; in some instances an injury to the feeling or mental condition of plaintiff unaccompanied by physical injury is not compensable). This element is not important in connection with the present problem, however, and will not be discussed here.

DUTY OF DEFENDANT TO PLAINTIFF AND BREACH THEREOF

The duty of defendant to plaintiff may arise in many ways. They may have entered into a contract, requiring defendant to do certain things. The defendant may owe a general duty to the public, as for instance an automobile driver owes a duty to the public to drive in a reasonably prudent manner under the circumstances. The physician owes a duty to his patient to possess the skill and knowledge of the average competent practitioner in similar localities, and to exercise such skill in as careful a manner as the average competent practitioner in similar localities (this is not a complete statement of the physician's duty, but is sufficient for present purposes).

Oregon courts have held that failure to comply with a statute which creates a positive duty, and creates a criminal penalty, may become negligence per se. Other cases have held that breach of a criminal statute is some evidence of negligence, or is prima facie negligence which may be overcome by other evidence.

Cases outside of Oregon have held that failure of a physician to follow a criminal statute is evidence of negligence. The classic example of this rule is where a statute requires a physician to place drops of silver nitrate in a newborn child's eyes, with a criminal penalty for failure to do so, and failure to do so is stated as a ground of negligence in a civil suit against a physician. In other words,

the *duty* is raised by a criminal statute, and the breach of this duty is held as some evidence of negligence.

It may be well argued that the above quoted maternity hospital statute does not create a *positive* duty, and that this statute is not one that creates a duty in the same sense as the silver nitrate solution statutes. But the fact remains that a court might hold that violation of the maternity hospital statute is *negligent per se*, or at least *some evidence of negligence*.

NECESSITY THAT PLAINTIFF'S INJURY BE PROXIMATELY
CAUSED BY DEFENDANT'S BREACH OF DUTY

Even though a court should determine that violation of the maternity hospital law is negligence *per se*, or evidence of negligence, the plaintiff must prove that the negligence was the proximate cause of her injury. If the injury received by plaintiff was not caused by the violation of the statute, plaintiff cannot recover because of such negligence.

For instance, if plaintiff was taken to an unlicensed hospital by a physician and an infection developed which caused her great injury, plaintiff cannot recover from the physician, if the infection was caused by an attempt at abortion made before she entered the hospital.

In a malpractice suit the problem of proving that defendant's negligence was the proximate cause of plaintiff's injury is usually just as difficult a one as proving that defendant physician has been negligent.

CONCLUSION

No definite general statement can be made as to whether a physician is liable in a damage suit if he attends, delivers or otherwise prescribes for a pregnant woman in a maternity hospital which is not licensed. Such a conclusion would depend on the particular facts of the particular case. If all the facts of a particular case are known, such a question might be answered in the particular case.

But the possibility that such conduct might be considered as a breach of a physician's duty to his patient, and therefore negligence, should indicate to him that wherever possible he should avoid attending, delivering or otherwise prescribing for a pregnant woman in an unlicensed maternity hospital.

ORGANIZATION ACTIVITIES

The Council of the Oregon State Medical Society met in Portland on February 10.

The following resolution was passed by the executive committee and approved by the Council:

C. H. WESTON CO.

Whereas, the C. H. Weston Company has heretofore applied to the Executive Committee of the Council for its approval of a so-called insurance policy to provide benefits and payments for medical, surgical and hospital services; and

Whereas, the Executive Committee has examined this insurance plan;

Now Therefore, the Executive Committee hereby recommends to the Council:

1. That this insurance plan be not approved because it does not conform to the policies of the Oregon State Medical Society in that the plan purports to be a "medical indemnity insurance" plan, in spite of the fact that it is not organized under the health and accident insurance laws, but under the hospital association law.

2. That the Council do not approve the plan of any hospital association that is not owned and controlled by

physicians who are members of their local society and the Oregon State Medical Society.

3. That the C. H. Weston Company be notified of this action of the Council.

The following **Statement of Policies** and the following excerpts from the new National Hospital Association contract for medical care were ordered to be printed and sent to all members of Oregon State Medical Association.

CONCERNING HOSPITAL ASSOCIATIONS AND RELATED PLANS OF MEDICAL CARE, WITH ANALYSIS OF NEW HOSPITAL AND MEDICAL SECURITY CONTRACTS OF THE NATIONAL HOSPITAL ASSOCIATION

Many members of the Oregon State Medical Society have inquired about the new hospital and medical security contracts of the National Hospital Association and have requested a statement of the attitude of the Oregon State Medical Society toward these contracts.

The National Hospital Association has not applied to the Oregon State Medical Society for approval of its old industrial contracts nor for its new individual or family contracts. The Oregon State Medical Society has not approved any of these contracts.

A statement of some fundamental policies of the Oregon State Medical Society regarding hospital associations and related plans for medical care is given below. Members of the society can judge whether or not the new plan of the National Hospital Association complies with these policies by reading in full the contracts of the National Hospital Association for hospital and medical security, or by reading the quotations below from these contracts.

SOME FUNDAMENTAL POLICIES OF THE OREGON STATE MEDICAL SOCIETY REGARDING HOSPITAL ASSOCIATIONS AND RELATED PLANS FOR MEDICAL CARE*

1. *All physicians practicing ethical medicine in their respective communities must be eligible to perform service.* The agency conducting the plan must not have the power to arbitrarily exclude any physician from eligibility.

2. *Opportunity to practice medicine and surgery without a license must not exist or be inherent in the plan.* If the agency conducting the plan has the power to determine whether an operation or other procedure is justified, and the power to override the attending physician's recommendation, that agency is practicing medicine without a license.

3. *The physician selected by the subscriber must be responsible solely to his patient and not to a third person.* Such a third person can directly or indirectly terminate the physician's services because of his failure to satisfy such third person as to the efficacy of his service.

4. *The agency conducting the plan must not give the public the impression that it will pay in full all medical and surgical bills of the subscribers.* The condition and limitations of most contracts are so numerous that such payment is impossible.

5. *The agency conducting the plan must not attempt to sell physicians' services or establish a fee schedule for services without consulting with and obtaining the permission of those physicians.*

*These policies are in consonance with the principles which have been followed by the Oregon State Medical Society and the American Medical Association since 1934 and are elaborations of the Principles of Medical Ethics.

IS THE NEW LAW OF THE NATIONAL HOSPITAL
ASSOCIATION AN INDEMNITY INSURANCE
PLAN OR IS IT AN EXTENSION OF ITS
HOSPITAL ASSOCIATION BUSINESS?

The National Hospital Association has not qualified to do business under the health and accident insurance laws of Oregon or any other state. The company is still doing business supposedly under the authority of the hospital association law.

The following quotations from the new contracts of the National Hospital Association show that the new plan is essentially a plan to provide medical, hospital and related services but drafted in such a manner as to leave the inference that it is now an insurance company.

"Foreword: This contract provides medical and surgical services, hospital care, * * * for the member of the class and to the extent herein defined for both sickness and injury wherever the member may be."

"* * * The Association, promises and agrees * * * to bear the expense of medical and surgical services, hospital care and special nursing for the member of the class and to the extent herein stated that are made necessary by sickness or injury as hereinafter defined, subject to the member's application herefor and to the provisions and conditions herein contained."

"This contract shall cover and the Association shall bear the expense of medical and surgical services, hospital care and special nursing for the member of the class and to the extent specified herein for the following causes, excluding all others: * * *"

"The benefits to which the member is entitled are hereinafter enumerated and defined, excluding all others:

"Medical and surgical services of the class and to the extent herein defined, including * * *"

"The Association undertakes only to bear the expense of medical and surgical services, hospital care, special nursing and related benefits defined in this contract to the extent such services and care are available and are actually necessary * * *"

"The intention of this contract is to provide medical and surgical attention and hospital care for the member, and it is mutually agreed that any remuneration to the member shall apply in payment of such care. * * *"

"The Association will pay, for medical and surgical care, examination and related services, fees, congruous to the income of persons earning up to Twelve Hundred (\$1200.00) Dollars per year or of other persons in like circumstances, but not in excess of fees established by the Association as maximum fees to be paid under this contract, and shall be subject to changes from time to time to meet changing conditions."

(Similar language is employed in relation to hospital and ambulance services.)

"The member and the Association shall cooperate in the execution of this contract to the end that the member shall receive prompt and efficient care at reasonable cost to the Association. * * *"

"The payments of the contract fees hereunder shall be evidenced by certificates issued by the duly authorized representatives of the Association. Such certificates shall contain the member's credentials for obtaining benefits to which he is entitled under this contract."

The application form provides: "Since 1906 the National Hospital Association has been engaged in providing protec-

tion for wage earners against the burdensome costs of sickness and injuries, principally for groups in the larger industries in the West. Now, to meet the many requests from the general public, the Association is extending its coverage to individuals and their families wherever they may be through an improved contract under which the member selects the doctor and the hospital."

CONTROLS OVER MEDICAL PRACTICE PROVIDED
UNDER THE PLAN

The question of whether or not the National Hospital Association retains control over the type and scope of medical attention to be rendered to subscribers of its "new" plan has been asked several times. The following quotations from the contract of the National Hospital Association show that it has retained as much control over medical practice as it had under its old plan and perhaps may be said to retain more control.

"* * * to bear the expense of * * * that are *made necessary* by sickness or injury as hereinafter defined. * *"

"The member shall have the right to engage the services of any regularly licensed physician or surgeon who is a member of the American Medical Association and/or the American College of Surgeons, or any other duly licensed physician or surgeon in the United States, Canada or other foreign country; provided that *the physician or surgeon selected is acceptable to the Association*. * * * the Association may, in its discretion, engage a specialist and/or other physician or surgeon to associate with, or act in consultation with the physician or surgeon engaged by the member, if in the judgment of the Association the member would be benefitted thereby."

"Operations where, after proper diagnosis, the member's condition clearly indicates the need of surgery.

"*Consultation before operations*, * * *

"* * * The Association *will not assume charge of a general Practitioner* where the member's condition clearly indicates a need of a specialist and where the services of a specialist are available."

"One of the purposes of this contract is to protect the member against dangers resulting from *ill-advised and unnecessary operations*. Therefore, the member, before submitting to a surgical operation, shall furnish to the Association the name of the attending surgeon and *a statement by said surgeon giving history, laboratory findings and diagnosis of the condition for which the operation is recommended*, and upon request by the Association, the member shall submit to consultation by a physician or surgeon to be named by the Association, and to such further examination as the consulting physician or surgeon shall require. * * *"

"The Association may reject any physician or surgeon who fails or refuses to furnish information required of the member under this contract or any physician or surgeon who refuses consultation or who undertakes surgery or other special work he *is not qualified to perform* or who, for any other cause, is not acceptable to the Association."

"The Association shall not assume charges for daily dressings or daily calls or visits unless the member's *condition clearly indicates the need for same*, and the Association shall not assume the expense of *unnecessary or excessive* x-rays, laboratory tests or other examinations, or of any other excessive or unnecessary services and care of the member."

"The Association will pay, for medical and surgical care, examinations and related services, fees congruous to the income of persons earning up to Twelve Hundred (\$1200.00) Dollars per year or of other persons in like circumstances, but not in excess of fees established by the Association as maximum fees to be paid under this contract and which shall be subject to changes from time to time to meet changing conditions."

The member's receipt form provides: "The National Hospital Association will accept bills from doctors and hospitals, for medical, surgical and hospital care of the member, subject to the provisions and conditions of the member's contract; provided that the *doctor engaged shall be qualified in the treatment of the particular condition and is acceptable to the Association * * **"

"Before submitting to a surgical operation or to any special examination or treatment, the member shall notify the Association, in writing, and shall request the attending doctor to furnish the Association with a report of the member's condition for which the operation or special examination or treatment is recommended, including history, laboratory and diagnostic findings, and such other information as the Association shall require—emergencies being excepted. *Doctors who refuse consultation or who fail or refuse to furnish the required information are not acceptable to the Association.*"

"The Association will accept the charges of doctors and hospitals up to the fees provided for in the member's contract, but it will not recognize charges for *unnecessary examinations or treatments* or for x-ray films which are not diagnostic. Bills for daily dressings, calls or visits, will be assumed only where the member's condition clearly indicates the need for same."

DUTIES OF ASSISTANT TO THE EXECUTIVE SECRETARY OUTLINED

Mr. John R. Caughell has been employed as assistant to the executive secretary in connection with the activities of the Bureau of Medical Economics. The following is an outline of the duties of this office:

1. Establish files under proper subject classifications so that requests for information may be promptly complied with.
2. Visit each approved local medical service bureau for the following purposes:
 - a. To obtain as complete information as possible concerning (1) forms of contracts, (2) premiums charged, (3) number of subscribers, (4) number of subscribers covered by other plans, (5) potential number of subscribers, and other pertinent information.
 - b. To ascertain the obstacles that prevent acceptance of the plan by eligible groups of subscribers not now under the plan and solicit suggestions as to ways in which the Bureau of Medical Economics can assist in overcoming these obstacles.
 - c. To solicit suggestions as to other ways in which the Bureau of Medical Economics can serve them.
3. Prepare a report of the data obtained from this survey and supply it to each approved local medical service bureau.
4. Send a letter to each of the larger industrial employers in the state who have employees in the low-wage brackets, explaining the Society's program, enclosing an explanatory pamphlet, and inviting his interest and further inquiry; refer these inquiries to the approved local medical service bureau serving the district in which the employer is operating, except that direct contact be established with such employers who are carrying on operations in more than one district.
5. Interview the president and secretary of each com-

ponent society explaining the Society's program and leaving with them material on the medical care of low-income groups and other phases of medical economics published by the Society and the American Medical Association.

6. Interview as many other physicians as possible explaining the Society's program and soliciting them to co-operate with the approved local medical service bureaus in serving traveling subscribers under the conditions set forth in Method of Payment and Fee Schedule to be Applied in Providing Medical Care to Low-Wage Industrial Groups adopted by the Council.

FEE SCHEDULE APPROVED

In keeping with the established policy of the Oregon State Medical Society to provide for organization by local societies of special plans for giving medical care to industrial workers was the adoption of a fee schedule. Such a schedule was drawn up by the Council of the Oregon State Medical Society and mailed to each member of the society with a request that he indicate in writing his agreement to render service according to this schedule. The purpose of this fee schedule is to make provision for those subscribers to approved medical service bureaus who are frequently away from the communities served by those bureaus. Such subscribers are employed by truck lines, oil companies, road contractors and other employers whose operations are not confined to a single locality. Such services are limited to emergency care except upon special authorization and obviously apply only to physicians who reside outside the jurisdiction of approved medical service bureaus.

BUREAU OF MEDICAL ECONOMICS

The above fee schedule, while drawn up by the Bureau of Medical Economics and passed by them, is fundamentally an action of the Oregon State Medical Society, acting in its supervisory capacity.

The Bureau of Medical Economics announces the following services which are available to component societies and their approved medical service bureaus:

1. Surveying the problem of providing medical care to low-wage groups in local communities and assisting component societies in organizing plans of prepaid medical service.
2. Assisting in establishing reciprocal relationships among all the local bureaus.
3. Assisting in setting up plans under which existing local bureaus can serve adjoining counties.
4. Obtaining the cooperation of physicians throughout the state in making their services available to all the local bureaus and providing lists of cooperating physicians.
5. Assisting in the adjustment of misunderstandings between local bureaus and between local bureaus and individual physicians.
6. Providing, on an actual-cost basis, pamphlets outlining the services available through the approved local medical service bureaus.
7. Assisting local bureaus by presenting the plan to employers and groups of employees, particularly those engaged in operations on a large scale and on a statewide or partial statewide basis.
8. Supplying actuarial data on the costs of rendering service to various types of employed groups, based upon the experience of all the local bureaus.
9. Offering counsel concerning the most advantageous methods of purchasing supplies.
10. Making available to local bureaus and members of component societies a stabilized plan of liability insurance.
11. Disseminating information among physicians concerning factors which increase the costs of providing service; as for example, the markedly higher cost of proprietary drugs and preparations as compared with the cost of drugs and preparations prescribed according to the U. S. Pharmacopeia and the National Formulary.

STATE BOARD OF HEALTH

Miss Ethel Mealey, Consultant in Health Education in the Division of Maternal and Child Health, has been loaned for the months of January, February and March, one-half time to the University of Oregon, School of Physical Education at Eugene, and one-half time to Lane County Health Department and the Eugene schools.

At the University, Miss Mealey, who was recently appointed Associate Professor of Physical Education, will conduct a class in health education for student teachers and also give a series of lectures to a group of graduate teachers now employed but feel the need in their classroom work for preparation in health education.

Miss Mealey was also appointed Consultant in Health Education, jointly by the Eugene School Board and the Lane County Health Department. As a member of the school faculty she will participate in the study and planning of the health curriculum, and bring to the teachers greater understanding of the school and community health program in general.

As a member of the Health Department staff Miss Mealey will participate in community planning and organization for health education, and will bring to the health department staff improved understanding and relationships with the school faculty. She will also continue with active participation in the Cottage Grove program, where in September, 1939, the schools and health department initiated a program of improved health education and health service, both for the schools and for the community.

The loan of Miss Mealey by the State Board of Health was in a large part made possible by additional public health nursing service in the health department, equivalent to approximately an increase of fifteen months nursing time per year, and an additional physician who is trained in pediatrics and is an experienced teacher, giving one-half his time to the University of Oregon, School of Physical Education, for teacher-training and one-half time to the health department as Director of the Eugene School Division.

Funds for these additional services were provided about equally by the health department, the Eugene School Board and the University, with a smaller amount provided by the Cottage Grove school district.

The plan as now in operation provides for coordination of nurses' and physicians' services as they affect both the schools and the general public as a health department responsibility, provides for improved health instruction in the elementary and secondary schools as a school responsibility, and also provides for the training of teachers, both undergraduate and graduate, in the field of health education as a University responsibility.

This cooperative plan which has been under consideration for nearly two years should accomplish the hope of bringing about a more efficient program in health service and health education for the schools and community. At the same time, the provision for improved teacher-training at the University, utilizing the Eugene schools for practical observation and experience, should go a long way in providing trained teachers for similar programs in other areas of the state.

MEDICAL NOTES

EYE HEALTH PROGRAM. On February 12-13 the Oregon State Board of Health, in cooperation with Oregon State Medical Society, and Dr. E. Merle Taylor, Chairman of its Conservation of Vision Committee, and National Society for the Prevention of Blindness, sponsored an institute on eye health program in Portland, for nursing instructors and supervisors. George H. Henton reviewed eye anatomy and discussed ophthalmologic conditions with which the nurses come in contact.

THE NORTHWESTERN DISTRICT MEETING of Oregon Health Officers convened under the leadership of V. A. Douglas in Salem, February 19. Dr. Weinzirl of Portland discussed the control of measles. Mrs. George Moorhead and Mrs. Nova Young of the Marion County Health Department outlined their educational program and evaluated local health services.

A. M. WEBSTER, a former President of Multnomah City and County Medical Society, has left private practice to assume a position on the staff of the Portland City Health Bureau.

STEWART S. MERRILL has opened offices in Wallowa. Dr. Merrill is a graduate of the College of Medical Evangelists at Los Angeles, and received his internship at Emmanuel Hospital in Portland.

ALFRED C. KINNEY celebrated his ninetieth birthday on January 30. He was honored by a luncheon which was attended by the four surviving members of the original State Board of Health, Andrew C. Smith, C. J. Smith, Edward Allen Pierce and Willis B. Morse. Dr. Kinney was the first and the fiftieth president of the Oregon State Medical Association.

GIFT TO MEDICAL SCHOOL. A gift of \$2500 has been made to University of Oregon Medical School by the Dazian Foundation for Medical Research. This fund is to be used by Dr. R. S. Dow in furthering his physiologic studies of the nervous system.

F. C. RENFREW has opened offices in Canby and has closed his office previously maintained in Aurora.

F. T. BURKE has taken over the duties of the Washington County health officer, replacing R. N. Sherwin, who has moved to Tucson, Arizona.

NEW OFFICERS ELECTED. The following officers were elected by the staff of Good Samaritan Hospital of Portland: president, Earl Anderson; vice-president, H. Shoot; secretary-treasurer, J. W. Wiley. At the banquet which followed the election, Donald M. Erb, president of University of Oregon, gave the principal talk which was on the subject of the Atherton report concerning proselytizing of the college athlete.

TUBERCULIN TESTING of the pupils in the Corvallis city school system is planned by the Benton County Health Association. The plan is at present under consideration by the Benton County Medical Society.

EXAMINATION OF FOOD HANDLERS. The Portland City Health Bureau is examining all applicants for food handlers certificates for syphilis. This was done for a few months during the summer of 1939, at which time 225 cases of syphilis were uncovered and referred to private physicians for treatment.

OBITUARIES

DR. DAVID N. ROBERG, former state health officer of Oregon, died in California February 20 at the age of 50 years as a result of injuries following an automobile accident.

DR. FREDERICK E. ADAMS of Eugene died February 11 at the age of 59 years.

DR. GEORGE O. DEBAR of Eugene died January 27 at the age of 90 years after an illness of several years' duration.

SOCIETY MEETINGS

CLATSOP COUNTY MEDICAL SOCIETY

A special meeting of Clatsop County Medical Society, held February 9 in Astoria, was devoted to a consideration of medical economic and medico-legal problems. The program included: (1) "Recent Developments in the Health Program of the Federal Government" by John H. Fitzgibbon, Delegate to the American Medical Association. (2) "Analysis of the New Medical and Hospital Contracts of the National Hospital Association and the Oregon State Medical Society's Policies" by Mr. John J. Coughlin, legal counsel. (3) "Progress in Oregon in Providing Medical Care to Low-Wage Groups Under Professional Control" by W. W. Baum of Salem, Councilor, 3rd District, Oregon State Medical Society. (4) "Procedure in Organizing a Local Bureau or Affiliating With a Neighboring Local Bureau" by Mr. Coughlin.

COLUMBIA COUNTY MEDICAL SOCIETY

A meeting of Columbia County Medical Society was held at the home of J. C. Barton, St. Helens, February 21. It was addressed by Robert L. Thomas of Portland on "Hyperthyroidism; Borderline Cases."

DOUGLAS COUNTY MEDICAL SOCIETY

A meeting of Douglas County Medical Society was held on February 14. Leon Ray of Portland spoke on "Reactions to the Treatment of Syphilis."

MULTNOMAH COUNTY MEDICAL SOCIETY

The regular meeting of Multnomah County Medical Society of February 7 was addressed by M. E. Steinberg on "Problems in Gastric Surgery" with presentation of patients, and by I. C. Brill on "Circulatory Failure With Special Reference to Digitalis." Dr. Brill supplemented his talk by presentation of a movie film on the action of digitalis on the heart. The February 21 meeting was presented by the staff of St. Vincent's hospital. The subject was "Fluid Administration by Parenteral Methods." This subject was divided as follows: (1) General Considerations, A. W. Holman; (2) Surgical Application, L. P. Gambee; (3) Medical Application, H. P. Rush; (4) Laboratory Guides, T. D. Robertson.

POLK-YAMHILL-MARION MEDICAL SOCIETY

The February meeting of Polk-Yamhill-Marion Medical Society was held in Salem February 13. The following officers were elected for the year 1940: president, Carl W. Emmons; president-elect, Willard Thompson; vice-presi-

dent, E. A. Lebold; secretary-treasurer, B. A. Myers; councilors, Hugh Dowd, C. A. Fratske and R. L. Wood. The principal address was given by Laurence Selling of Portland, who spoke on "Herniation of the Intervertebral Disc," and "Hypertrophy of the Ligamentum Flavum."

UMATILLA COUNTY MEDICAL SOCIETY

Umatilla County Medical Society was reorganized on January 3, at which time J. P. Brennan, Pendleton, was elected president; F. D. Belt, Hermiston, vice-president; and T. M. Barber, Pendleton, secretary-treasurer. At the regular meeting on February 13, in Pendleton, the society was addressed by R. H. Wilcox, Umatilla County health officer, on the subject "Regulations Pertaining to Communicable Diseases" and also by W. C. Perry, attorney, on the subject "The Doctor on the Witness Stand."

WOMAN'S AUXILIARY

BENTON COUNTY AUXILIARY has elected new officers for the year, as follows: president, Mrs. W. W. Ball; vice-president, Mrs. W. J. Stone; secretary, Mrs. N. L. Tartar; treasurer, Mrs. D. C. Reynolds, all of Corvallis.

CLATSOP COUNTY AUXILIARY held its December meeting at a luncheon at Glen Eden House, Warrenton.

Three new members have joined the auxiliary: Mrs. E. E. Berg, Mrs. Vernon Fowler, and Mrs. A. J. Kerbel, all of Astoria.

New officers for 1940 are: president, Mrs. J. V. Straumfjord; president-elect, Mrs. F. W. Rafferty; first vice-president, Mrs. R. W. Kullberg; second vice-president, Mrs. T. J. Forsstrom; secretary, Mrs. L. M. Lowell; treasurer, Mrs. Vernon Fowler.

COOS-CURRY AUXILIARY met in December at the home of Mrs. John Simpkin.

New officers elected are: president, Mrs. Donald M. Long; first vice-president, Mrs. John Keizer; second vice-president, Mrs. Edward Rehne; secretary, Mrs. Raymond McKeown; treasurer, Mrs. Leslie Johnson; historian, Mrs. O. K. Wolf.

JACKSON COUNTY AUXILIARY reports that much money has been raised through the sale of their "Favorite Recipe Filing Sets."

The following new officers were named: president, Mrs. T. G. Heine; vice-president, Mrs. Theodora Malmgren; secretary-treasurer, Mrs. Walter Kresse.

JOSEPHINE COUNTY AUXILIARY recently met for tea at the home of Mrs. Inkrote in Grants Pass. Members who were present decided to sew for the local hospital, which is county-owned and operated.

KLAMATH COUNTY AUXILIARY met on December 6 at the home of Mrs. George Merryman in Klamath Falls. Mrs. G. A. Massey was elected president; Mrs. Merle Swanson, vice-president; and Mrs. E. Dietsche, secretary-treasurer. A Christmas party was enjoyed after the business meeting.

MULTNOMAH COUNTY AUXILIARY met in January at the home of Mrs. C. E. Sears in Portland. Annual reports were given, and new officers were installed (see report of last month).

DORIS ABELE (Mrs. JOHN F.)

Press and Publicity.

WASHINGTON

FIFTY-FIRST ANNUAL MEETING, TACOMA, AUGUST 26-28



ARTHUR ANDERSON

Executive Secretary

Washington State Medical Association

BOARD OF TRUSTEES MEETING

A meeting of Board of Trustees of Washington State Medical Association was held in Seattle, February 25. Selection of an Executive Secretary was the main order of business. This move was necessitated by the resignation of Jack Geoffroy, which was accepted by the Board of Trustees effective as of January 31.

The Executive Secretary Committee, after interviewing a number of possible candidates for the position, had come to the conclusion that only one man approached the qualifications necessary for the position at the present time. Mr. Art Anderson of Seattle was recommended by the Committee and accepted by the Board of Trustees.

Mr. Anderson has long been a resident of Seattle, has done considerable newspaper work, and has been campaign manager for a number of successful candidates for public office. He has a wide acquaintanceship throughout the state, is known favorably among newspaper men, and is marked by considerable tact and diplomacy. He took office March 1. The Public Relations Committee reported that plans had been held in abeyance until appointment of a new Executive Secretary. Meetings are planned for the near future.

GROUP HOSPITALIZATION

Group Hospitalization Committee reported a joint meeting with similar committee of the Washington State Hos-

pital Association on February 4. Discussion of plans for group hospitalization consumed nearly five hours, and all phases of the problem were brought up. Both committees felt that: (1) it might be difficult to develop demand for hospital services alone, due to existence of service bureaus, insurance work, medical aid, etc.; (2) it is difficult to estimate the number of individuals in middle and upper income brackets who would desire such contracts; (3) plans being developed in Spokane, California and Oregon should be watched; (4) the legal situation should be more carefully studied.

HEALTH EDUCATION SURVEY

Dr. Adolph J. Roth of the Health Education Survey of the State Planning Council was unable to attend the meeting, but submitted a written report. Through a grant of \$3,500 from Washington State Tuberculosis Association, the survey looking toward a more scientific health education program for the institutions of higher learning as well as the common school system has been inaugurated. Seven schools are evaluating their own health programs by going into each grade to find out the health facts being given. Several graduate students are making a special study of health programs in different school systems. Many of the colleges are reviewing their own health programs. Questionnaires have been sent to several hundred school systems and the answers tabulated. More than 120 different organizations have conferred with the director. An attempt has been made to coordinate activities of many agencies sponsoring various phases of school health work.

HOUSE OF DELEGATES

Time of meeting of House of Delegates was discussed. It was voted that the first meeting of the House of Delegates be subject to call of the President.

It was suggested that meetings of the House of Delegates be held at such times as not to conflict with the meetings of the scientific session. It was also decided that resolutions and by-laws should be sent to members of the House of Delegates at least a month before meeting.

A communication from the National Association of Retail Druggists regarding demand that vitamin products be sold only through drug stores was referred to the Legislative Committee.

Raymond Zech tendered his resignation as a member of the State Planning Council, and the Board appointed Harry Rhodehamel to take his place.

NATIONAL PHYSICIANS COMMITTEE FOR THE EXTENSION OF MEDICAL SERVICE

A motion was passed endorsing the work of this committee, which is a nonpolitical, nonprofit organization, and recommending that a bulletin be issued to each county medical society, calling attention to its aims and objectives and the desirability of supporting its program by voluntary subscriptions.

Practically all recent issues of *Journal of the American Medical Association* has published "The Platform of the American Medical Association," and from time to time editorials relating to the Wagner Act. Commendatory editorials have appeared in two recent issues of *NORTHWEST MEDICINE*

and others will follow. There is a widespread belief that the regular physicians of this country should put forth a combined effort to acquaint the public with the aims and objectives, methods and achievements of scientific medicine in the interests of public health as opposed to any contemplated form of socialized medicine. That this may be accomplished in a national way, the above committee of representative physicians and with state representation was organized.

It has been determined by those best informed that this movement, with its various activities, is not at this time a function of the American Medical Association, although it gives its hearty approval. It is apparent that individual effort, unorganized, cannot meet the issues; yet every physician in the United States by legislation may become personally affected and should, therefore, be deeply interested.

For these and other reasons it is believed that every practicing physician should support the work of this committee by making a voluntary subscription in some amount, which as an investment may be compared to the payment of a premium for personal protection he cannot otherwise provide for himself. This is a matter of vital interest to every physician, and each is urged to acquaint himself with the issues confronting the medical profession and to make liberal personal subscriptions at once. Make checks payable to National Physicians Committee and mail to 700 Michigan Avenue, Chicago, Illinois.

Resignation of Asa E. Seeds from Neoplastic Committee was accepted.

SPEAKERS BUREAU

The Speakers Bureau has been established by Washington State Medical Association as part of a program for extension of postgraduate medical education. Letters were sent to all members of the Association in order to obtain a list of those who are willing to deliver lectures before county medical societies. Responses were received from one hundred sixty-six members who agree to join the Bureau.

Under Subject Index are listed all the subjects which will be considered and the names of members who may be requested for lectures. Each has recorded in the state office a list of topics, from one to nine in number, of the lectures which he will be prepared to deliver. These topics will be mailed on request to the officers of any county society.

Copies of the Subject Index and list of speakers, together with the topics of their lectures, have been delivered to the presidents and secretaries of the twenty-four county medical societies of the state. In order that programs may be provided, each officer is requested to specify a speaker or speakers with subjects desired, together with lists of at least one alternate change. Information is requested concerning date, time and place of meeting, approximate number of physicians expected to attend, whether or not a lantern slide projector will be available, with additional details which might be of interest to prospective speakers. Mimeographed forms for making requests for speakers may be secured. If travel, or much loss of time, is involved, it is expected that the speaker's expenses will be paid by the organization before which he appears, if he so desires.

Requests for information and other correspondence should be addressed to Committee on Postgraduate Medical Education, 218 Cobb Building, Seattle, Washington.

SUBJECT INDEX

List of medical subjects and speakers:

- Allergy*
Kahn, B. T., Spokane
Stier, R. F., Spokane
Stroh, J. E., Seattle
- Anesthesia*
Dodds, G. A., Seattle
- Burns*
Rose, H. W., Seattle
- Carcinoma*
Aspray, J. M., Spokane
Baker, J. W., Seattle
Cantril, S. T., Seattle
Flaherty, F. E., Seattle
Harris, M. T., Spokane
Herrmann, S. F., Tacoma
Pence, L. C., Spokane
Seeds, A. E., Spokane
Sweet, W. H., Ritzville
Trueblood, D. V., Seattle
Ward, C. B., Seattle
Whitacre, H. J., Tacoma
- Cardiology*
Friend, A. G., Seattle
King, R. L., Seattle
Watts, C. E., Seattle
- Dermatology*
Bailey, R. J., Spokane
Hathaway, J. C., Spokane
Light, S. E., Tacoma
Odland, Henry, Seattle
Parker, S. T., Seattle
- Diagnosis and General Medicine*
Bannick, E. G., Seattle
Bowers, J. M., Seattle
Capaccio, G. D., Seattle
Kahn, B. T., Spokane
King, R. L., Seattle
Kretzler, H. H., Edmonds
Leede, C. S., Seattle
Maddison, F. R., Tacoma
Palmer, L. J., Seattle
Sherwood, K. K., Seattle
Watts, C. E., Seattle
- Endocrinology*
Davidson, C. F., Seattle
Lincoln, Miriam, Seattle
Rose, F. E., Spokane
- Eye, Ear, Nose and Throat*
Campbell, R. A., Seattle
Dorman, Purman, Seattle
Dowling, J. T., Seattle
Goff, W. F., Seattle
Goss, H. L., Seattle
Hoffman, W. F., Seattle
Jensen, C. D. F., Seattle
Johnson, F. A. H., Tacoma
Lower, R. A., Spokane
Moore, T. I., Spokane
Rott, O. M., Spokane
Shannon, C. W., Seattle
Underwood, E. A., Vancouver
Veasey, C. A., Jr., Spokane
Warren, E. D., Tacoma
- Gastroenterology*
Hagyard, C. E., Seattle
Joers, L. E., Tacoma
- Gynecology and Obstetrics*
Allen, R. E., Seattle
Boyce, Allen, Spokane
Brookbank, E. B., Seattle
Dempsey, G. R., Seattle
Fiorino, J. F., Everett
Fursey, F. R., Spokane
Gahringer, J. E., Wenatchee
Helwig, C. M., Seattle
Jones, C. B., Everett
Jones, S. S., Tacoma
- Kindschi, J. D., Spokane*
Lawrence, E. J., Spokane
Lingenfelter, J. S., Seattle
Plant, R. K., Seattle
McKinney, M. W., Seattle
Reekie, R. D., Spokane
Rollins, P. R., Seattle
Rose, F. E., Spokane
Skinner, H. H., Yakima
Stewart, R. H., Seattle
Thompson, G. G., Seattle
Thorp, D. J., Seattle
Wright, H. G., Bellingham
- Neuropsychiatry*
Campbell, M. M., Seattle
Carlson, C. C., Tacoma
Hackfield, A. W., Seattle
Halvorsen, C., Steilacoom
Lemere, Frederick, Seattle
O'Leary, A. J., Spokane
Rickles, N. K., Seattle
Ruge, E. C., Seattle
Voeglin, W. L., Seattle
Wood, F. L., Lynden
- Orthopedics*
Adams, A. O., Spokane
Anderson, Roger, Seattle
Brown, N. R., Spokane
Brugman, Joe., Seattle
Congdon, R. T., Wenatchee
Freeman, G. W., Seattle
Green, H. J., Seattle
Grieve, W. E., Spokane
Leavitt, D. G., Seattle
Leavitt, H. L., Seattle
LeCocq, J. F., Seattle
Mullinnex, M. E., Yakima
Tuell, J. I., Seattle
- Pathology*
Jenson, C. R., Seattle
Larson, C. P., Tacoma
- Pediatrics*
Barnett, E. J., Spokane
Clein, N. W., Seattle
Coe, H. E., Seattle
Dayton, D. M., Tacoma
Douglass, F. H., Seattle
Durand, J. I., Seattle
Loree, D. R., Vancouver
Seelye, W. B., Seattle
Somers, R. H., Seattle
- Peritoneoscopy*
Mullarky, R. E., Seattle
- Proctology*
Mounsey, J. W., Spokane
Wright, R. O., Tacoma
- Public Health*
Hunt, W. D., Seattle
Lien, A. E., Spokane
Magnussen, N. E., Tacoma
Powers, L. E., Tacoma
Rott, O. M., Spokane
Soderstrom, K. M., Seattle
- Roentgenology, Diagnostic and Therapeutic*
Aspray, J. M., Spokane
Cantril, S. T., Seattle
Harris, M. T., Spokane
Seeds, A. E., Spokane
Ward, C. B., Seattle
- Surgery—General*
Kellogg, H. B., Seattle
Lightfoot, L. R., Aberdeen
Mattson, W. W., Tacoma
Nelson, J. M., Spokane
Sharples, C. W., Seattle
Willis, P. W., Sr., Seattle

Abdominal Surgery

Baker, J. W., Seattle
 Davidson, H. J., Seattle
 Feagles, Harry, Chehalis
 Forbes, R. D., Seattle
 Geehan, J. W., Seattle
 Herrmann, S. F., Tacoma
 Horsfall, F. L., Seattle
 Manzer, T. T., Seattle
 Metheny, David, Seattle
 Mowery, C. R., Spokane
 Mullen, B. P., Seattle
 Rosenthal, S. E., Spokane

Surgery of Hand

Dudley, H. D., Seattle
 Givens, J. H., Seattle

Neurosurgery

Berens, S. N., Seattle
 Flothow, P. G., Seattle
 Lynch, J. W., Spokane
 Plum, F. A., Tacoma

Plastic Surgery

Firestone, Charles, Seattle

Thoracic Surgery

Blackman, James, Seattle
 Querna, M. H., Spokane

Syphilis

Bailey, R. J., Spokane
 Joy, F. B., Seattle
 Parker, S. T., Seattle

Powers, L. E., Tacoma
 Rodney, Mary M., Spokane

Tuberculosis

Anderson, L. P., Almira
 Francis, B. F., Seattle
 Hull, H. L., Yakima
 Narodick, P. H., Seattle
 Nelson, J. E., Seattle
 Slyfield, F. A., Seattle
 Soderstrom, K. M., Seattle

Urology

Corlett, D. D., Seattle
 Engels, C. F., Tacoma
 Franz, F. W., Seattle
 Nelson, J. N., Seattle
 Peacock, A. H., Seattle
 Rohrer, P. A., Seattle
 Ross, W. L., Jr., Yakima

Varicose Veins

Nixon, E. A., Seattle

*Venerology and Social**Hygiene*

Jones, W. R., Seattle
General Topics
 Backman, V. G., Pasco
 Benson, R. A., Bremerton
 Capell, H. J., Yakima
 Rodney, Mary M., Spokane
 Wilhelmy, Sylvester, Seattle
 Wilson, G. E., Seattle

elected officers at its February 7 meeting at the Davenport Hotel, Spokane. J. G. Matthews was installed as president to succeed John O'Shea, T. M. Ahlquist was elected vice-president and James M. Nelson, secretary-treasurer.

PLAQUE HONORS SWIFT. A bronze plaque honoring the memory of the late George Swift was presented to Columbus Hospital, Seattle, in a special ceremony January 17.

ALFRED AYRES is acting health commissioner for Clallam County replacing Leland Powers who is now health commissioner of the city of Tacoma.

OBITUARIES

DR. JOHN ANDERSON BOWLES of Tacoma, Wash., died February 2, aged 58. He was born in Lanes Prairie, Missouri, in 1881. He received his medical education at Washington University Medical School, St. Louis, graduating in 1907. He came to Washington in 1908 and during the World War served as lieutenant in the medical corps. He was associated with the Pacific Coast Coal Co. at Black Diamond for several years, was physician at the McNeil Island penitentiary for two years, and for several years prior to his death was physician for the Tacoma smelter.

DR. HENRY J. WHITNEY, formerly of Davenport and recently resident at the Veterans' Home at Retsil, Wash., died February 6, aged 93. He graduated from the University of Oregon Medical School in 1888 and shortly afterward located in Davenport. In 1909 he moved to Cashmere, where he practiced for many years, finally moving to Olympia. He was a veteran of the Civil War, having served with the Pennsylvania infantry.

DR. PERLE CLIFTON IRWIN of Seattle, Wash., died February 12, following operation for carcinoma of the colon, aged 64. He was born in Ohio, and after serving in the Spanish-American War, received his medical education at the University of Iowa. His medical degree was granted in 1904, following which he practiced for four years in the State of Iowa. He came to Seattle in 1908. He had served for many years as physician to the Seattle Fire Department and in addition enjoyed a large private practice.

DR. JOHN ALEXANDER MCKAY of Shelton, Wash., died February 19, aged 70. He received his medical education at the University of Illinois College of Medicine, graduating in 1905.

MEDICAL NOTES

BUREAU BUYS HOSPITAL. Cowlitz County Medical Service Bureau took over the Cowlitz General Hospital during January. Indicated total price paid to the four railroad companies which previously owned the hospital and thirteen acres of ground was \$25,000. The hospital has been under the direction of the Service Bureau for some time.

HOSPITAL FUNDS VOTED. After long disagreement over management of Pierce County Hospital and much criticism of inadequate facilities, county commissioners recently voted \$75,000 for improvements. Expenditure of the funds is conditioned upon grant from the State Social Security Department of an equal sum.

HOSPITAL PURCHASED. Dominican Sisters purchased the Mt. Carmel Hospital at Colville and took charge March 1. The same order operates St. Joseph's Hospital at Chewelah and St. Martin's Hospital at Tonasket.

HOSPITAL OPEN HOUSE. St. Martin's Hospital, Tonasket, held open house January 24, celebrating the recently completed addition and new equipment.

CONSTRUCTION STARTED. A \$50,000 addition to Providence Hospital, Seattle, was under construction late in February. New unit will provide interne quarters and supply rooms.

NURSES ENTERTAIN. Skagit County branch of the Washington Graduate Nurses' Association entertained January 16 for the physicians of the county. Miss Ruth Olson is president of the association. M. T. MacAvelia of Mt. Vernon acted as toastmaster. J. R. Hurley presented the address of the evening.

CLARK COUNTY OFFICERS CHANGE. Upon recent resignation of R. W. Armstrong, county physician for Clark County, George H. Johnson relinquished his position as health officer and took over the office of county physician. Harold M. U'Ren of Spokane will assume the duties of health officer and John R. Seeley, recently of Fresno, is to be assistant county physician.

SURGICAL SOCIETY ELECTS. Spokane Surgical Society

SOCIETY MEETINGS

CLALLAM COUNTY MEDICAL SOCIETY

Annual meeting of the Clallam County Medical Society was held in January. Irving Kaveney was elected president and James McFadden was reelected secretary-treasurer.

COWLITZ COUNTY MEDICAL SOCIETY

February meeting of the Cowlitz County Medical Society was held at Hotel Monticello, Longview, February 14. Meeting was addressed by R. H. Fletcher, acting State Director of Health who discussed matters of public health administration important to the county. Motion picture films on surgery of the stomach and abdominal surgery were shown.

Auxiliary to the Cowlitz County Medical Society met at the same time and were addressed by Dr. Fletcher who outlined the activities of the State Department of Health.

KING COUNTY MEDICAL SOCIETY

King County Medical Society held a regular meeting, February 3, in the Medical-Dental Building, Seattle, President Jared presiding.

The following were elected to membership: A. R. Altose, S. M. Billington, R. B. Hearne, W. C. Knudson, C. McArthur, R. R. Miller, K. E. Norris, R. J. J. Tipler and E. J. Wollenweber. Application of F. L. Ball was read.

F. J. Jarvis read a paper on "The Jaundiced Bleeder." He discussed the various causes of bleeding, and particularly its relations to jaundice. He described various measures which have been employed to overcome the bleeding condition. He particularly discussed the formation of prothrombin and its relationship to vitamin K.

C. S. Leede read a paper on "Symptomatology of Gallbladder Disease." Symptoms of cholecystitis were described in three groups. The cholecystogram is the most important single means for direct or differential diagnosis.

W. C. Speidel read a paper on "Surgical Treatment of Gallbladder Disease." He discussed cholecystectomy versus cholecystostomy. Operative indications and technic were considered. The papers were discussed by C. E. Hagyard and N. A. Johanson.

PIERCE COUNTY MEDICAL SOCIETY

The regular meeting of the Pierce County Medical Society was held in the Medical Arts Building, February 13, with W. W. Mattson in the chair.

A short informal discussion was held regarding the 3 mill levy to be voted upon March 12 for a new building at the County Hospital.

The first paper of the evening was by E. W. Janes, who reported a case of typhoid in a girl of seventeen.

Dr. Janes spoke of the use of scraped apple in addition to a 3000 calory diet, divided into six meals, and showed that the mortality rate had been reduced from 30 per cent to 10 per cent by this newer method of treatment. L. E. Powers, in discussion, referred to the epidemic at Sequim and stressed the intradermal method of giving typhoid vaccine.

Carl P. Wagoner of Seattle presented the second paper in which the common cold was divided between the infectious and noninfectious types, due to pollen or mold sensitization. The desensitization type of using vaccines was recommended by the speaker.

K. S. Staatz presented a case of gastrocolic fistula, occurring in a man with a malignancy fusing the colon to the stomach wall.

Robert W. Brown and Cecil Hurst were elected to membership. The application of J. R. Brooke was read and referred to the Trustees.

WALLA WALLA VALLEY MEDICAL SOCIETY

Regular meeting of Walla Walla Valley Medical Society was held at the Grand Hotel, Walla, Walla, February 15. Meeting was addressed by Herbert E. Coe of Seattle who discussed developmental and congenital defects. He stressed the point that correction should be instituted at an early date to take advantage of the strong healing tendency during the rapid growth period. Harlan P. Kahler of Walla Walla, George R. Kingston, county-city health officer, and F. B. Nather of the U. S. Veterans' Hospital were elected to membership.

WOMAN'S AUXILIARY

SPOKANE COUNTY AUXILIARY held its annual guest day on January 12, presenting a public relations program under the direction of Mrs. Robert Hamblen. A panel discussion was given by Drs. M. S. Wright, public health; C. L. Lyon, pediatrics; J. B. Plastino; T. I. Moore, socialized medicine, and Mrs. I. Hanks, President of Spokane County Public Health Council. Dr. T. I. Moore closed the discussion with a talk on the Wagner Health Bill and the platform of the A.M.A. Seventy-five guests, presidents or representatives of local clubs, attended this stimulating program.

COWLITZ COUNTY AUXILIARY, one of the smallest in the state, has shown great interest in its work this winter. In October, Mrs. J. L. Norris discussed "Facts About Health Insurance," and an informative talk on the "Wagner Health Bill" was given by Mrs. A. F. Birbeck, legislative chairman. Mrs. L. S. Roach, State President, was guest at that meeting. *Hygeia* was the topic for the December meeting in Cowlitz County, under the leadership of Mrs. P. H. Henderson, *Hygeia* chairman.

CLARK COUNTY AUXILIARY held its regular January meeting on the Evergreen Highway, following a joint dinner with the County Medical Society. A review of *Hygeia* was given by Mrs. Henry Wiswall, and plans were made for a public relations luncheon and program in May. In February, Mrs. Karl Stefan of Ridgefield gave a resume of the medical bills presented in the National legislature, and Mrs. H. L. Frewing outlined the Wagner Health Bill.

GRAYS HARBOR AUXILIARY honored Mrs. Roach at a luncheon meeting, January 17, at which she reviewed the aims of Auxiliary work. Plans were made for a large public relations meeting, to be held in the near future.

WALLA WALLA COUNTY AUXILIARY held a meeting, December 14, when representatives of the Anti-Tuberculosis League and the Woman's Army for the Control of Cancer spoke. Miss Mary Houston of Whitman College Infirmary discussed the status of nursing and medicine in Puerto Rico at the January meeting in Walla Walla. Midyear reports of committee chairmen were given at the business session.

PIERCE COUNTY AUXILIARY held a meeting in December, when Dr. Walter Cameron spoke on the Wagner Health Bill. Reports were given by committee chairmen. Plans were made for the open meeting which was held on January 11, and it was decided to invite the public. Dr. Helen Gibson Hogue of Seattle, executive secretary of the Washington State Mental Hygiene Society, was the speaker at this open meeting, and her subject, "Psychological Preparation for Living," was presented with simplicity and clarity.

KING COUNTY AUXILIARY at its January meeting heard Mrs. L. S. Roach, State President, speak on the State Philanthropic Fund. Mrs. Pearl Wanamaker, State Senator, discussed "The Human Side of the Legislature." In December, King County members heard a play reading by some of the auxiliary, and saw motion pictures taken by Dr. and Mrs. Austin DeFreece on their recent trip to Europe.

MARGARET C. TASHIAN,
State Publicity Chairman

IDAHO

FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPTEMBER 11-14

MEDICAL NOTES

WELFARE OFFICERS MEET. Quarterly meeting of officers of the Department of Public Welfare was held at the State Hospital North, January 12. Host of the meeting was John I. McKelway, superintendent. Emory Afton, commissioner of the department of public welfare; H. L. McMartin, director of public health; Charles R. Scott, superintendent of the State School and Colony, Nampa; James O. Cromwell, superintendent of the State Hospital South, Blackfoot; and Mr. H. L. Simpson, business manager of the latter.

CHAMBER SPONSORS HEALTH DAY. Special meeting sponsored by the Junior Chamber of Commerce of Boise called attention to National Social Hygiene Day, February 1. Meeting was addressed by F. M. Cole of Caldwell, George H. Bischoff, Alfred M. Popma, M. B. Shaw, O. F. Swindell, and Harmon A. Tremaine.

HEALTH DIRECTOR NAMED. E. L. Berry of Buhl was appointed State Director of Health January 10. He succeeds H. L. Martin who has been acting director for the past year. Dr. McMartin is to leave for postgraduate training in public health and will subsequently be attached to the State Department of Health.

IMMUNIZATION CAMPAIGN. Physicians at Grangeville co-operated in a campaign of immunization against diphtheria during January. Parents were at the same time urged to have children vaccinated against smallpox. About 250 children received the diphtheria toxoid, paying twenty-five cents each for the administration.

HEALTH OFFICERS REAPPOINTED. H. H. Hughart was reappointed county physician for Bannick County and D. J. Engleberg of Downey, J. B. Koehler of Grace, and G. G. Fitz of Bancroft were named health officers.

JOHN T. WOOD of Coeur d'Alene spoke on infantile paralysis at a special meeting of the Rotary Club January 26.

HOSPITAL STAFF ELECTS. Staff of St. Joseph Hospital, Lewiston, elected John F. Gist president at its annual meeting January 11. J. E. Baldeck was named vice-president and M. J. McRae was elected secretary-treasurer.

CAMPAIGN ANNOUNCED. Rex T. Henson of Coeur d'Alene has announced that he will be a candidate for Republican nomination for Congress from the first Idaho district. He received his Republican nomination in 1938 but was defeated by the Democratic candidate.

ALEXANDER BARCLAY of Coeur d'Alene, after many months of serious illness, is much improved and left his home February 13 for a trip to Riverside, California. He plans to return some time in May.

PUBLIC HEALTH COURSE. North Idaho Junior College at Coeur d'Alene offers a course in public health to students. Instruction will be under the direction of H. L. Newcomb, director of the Kootenai County health unit.

CRIPPLED CHILDREN'S CLINIC. Clinic for crippled children was held at Coeur d'Alene January 15. Patients were examined by M. B. Shaw and George F. Bischoff of Boise.

E. L. BERRY of Buhl has been appointed to the position of Director of the Division of Public Health.

L. C. KROTCHER of Boise has been assigned to the Public Health Unit at Twin Falls.

L. R. REDNER, recently of Driggs, has located in Twin Falls for the practice of his specialty, eye, ear, nose and throat.

L. C. THOMPSON of Gooding has gone to the Presbyterian Hospital in Chicago.

R. E. GOODWIN, formerly of Hailey, has located in Emmett.

SOCIETY MEETINGS

KOOTENAI COUNTY MEDICAL SOCIETY

Annual meeting of the Kootenai County Medical Society was held February 9 for election of officers. Fred E. Horning was named president; H. L. Newcombe, vice-president; John T. Wood, secretary-treasurer, and John T. Wood delegate with Alexander Barclay, Jr., as alternate. All are from Coeur d'Alene.

NORTH IDAHO DISTRICT MEDICAL SOCIETY

January meeting of North Idaho District Medical Society was held at the Lewis-Clark Hotel, Lewiston, January 25. Election of officers resulted in election of W. S. Douglas of Lewiston as president, Douglas Christensen of Kendrick, vice-president; D. D. McRoberts of Lewiston, secretary, and D. K. Worden, censor.

J. I. McKelway, superintendent of the State Hospital North at Orofino, discussed the State voluntary commitment law, under which patients may enter state institutions upon their own request. W. S. Douglas discussed dislocations of the shoulder.

POCATELLO MEDICAL SOCIETY

Regular meeting of the Pocatello Medical Society was held at St. Anthony's Hospital, Pocatello, February 1. Meeting was addressed by Mr. L. F. Bracken, manager of the State Insurance Fund of Idaho, who discussed the state industrial insurance program and its manner of operation. He stated that doctors should regard industrial accident cases as private patients and make these individuals responsible for payment of the services rendered. Accordingly a true occupational disease can not be compensated for under our present law unless there is actual disability resulting from such disease.

W. F. Howard presented an interesting paper on "Hormones and Vitamins."

SOUTH SIDE MEDICAL SOCIETY

The regular meeting of South Side Medical Society was held at Twin Falls, February 20. It was a dinner meeting at which the wives were guests. The main subject of the evening was the management of surgical-medical cases from the transient-farm labor camp. A board of control was appointed for the purpose of negotiating for the cases of the group which, with the exception of general medical cases, will probably be by contract. Fees of the South Side Medical Society will be adhered to for the treatment of other cases.

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BOOK REVIEWS

TEXTBOOK OF NERVOUS DISEASES. By Robert Bing, Professor of Neurology, University of Basel, Switzerland. Translated and enlarged by Webb Haymaker, Assistant Professor of Neurology and Lecturer in Neuro-Anatomy, University of California. From the Fifth German Edition. With 207 illustrations, including 9 in color. 838 pp. \$10. The C. V. Mosby Co., St. Louis, 1939.

This is an excellent translation of Bing's classical text on neurology and should be a model for all medical translations. It is exact, which is in marked contrast to most other texts. The translator checked carefully with American neurologists, to whom he sent preliminary copies and whose ideas and concepts were incorporated into the text.

The author is noted for his ability to analyze even the most complex of neurologic problems in simple terms comprehensible to the student. In addition he has had a wealth of clinical experience and writes his book from his own practice in a personal manner, free of confusing speculation. The combination of the best of European knowledge and American diagnostic and treatment procedures makes this a superb text. Diagnosis becomes a fascinating intellectual process of fitting the elicited signs and symptoms to the mathematically exact science of neurology. Nor is treatment relegated to a few sentences, as in older books. This book can unhesitatingly be recommended as the best in its field.

FREDERICK LEMERE

AN INTRODUCTION TO DERMATOLOGY. By Norman Walker, Kt., M.D., LL.D., F.R.C.P., Consulting Physician and G. H. Percival, M.D., Ph.D., F.R.C.P., Physician for Diseases of the Skin, The Royal Infirmary, Edinburgh. Tenth Edition, 391 pp., \$7. The Williams & Wilkins Co., Baltimore, 1939.

This book possesses a great number of illustrations, among which are one hundred and eight full color and many half-tone plates. Some of these were made from the moulage of the skin lesion, a fact which speaks for the artistic efforts that have gone into their production.

One of the best written sections is on the dermatoses, in which diagrams and microphotographs are used to illustrate the pathologic changes. The authors are careful in the use of the term "eczema," considering its free application as "a cloak for ignorance." While they stress the necessity for more intense study of the etiology of dermatitis, they have also assumed a conservative attitude regarding the application of the concept of allergy to certain dermatologic problems. There are chapters dealing with vegetable and animal parasites, diseases of the epidermal appendages, malformations, anomalies of pigmentation and new growths, of which all are well illustrated. Anyone interested in dermatology and wishing good reference will find this volume of value.

S. T. MERCER

THE SURGERY OF INJURY AND REPAIR. By Samuel Fomon, Ph.D., M.D. Formerly Major Medical Corps U. S. Army. 1409 pp., \$15. The Williams & Wilkins Company, Baltimore, 1939.

As a text for the general physician and surgeon this volume is too complicated for quick reference and too detailed for ready understanding. Five hundred of the fourteen hundred pages are devoted to general considerations of physiology, wound healing and body reactions. The remainder of the volume is concerned with the technical details of plastic procedures and lists all the methods in this field of surgery from antiquity to the present time.

The book is well illustrated and for one versed in reparative work it offers an excellent field for study and comparison of technics. Chapters on cleft lip and palate as well as nasal reconstruction are especially good. As a reference text it is excellent for it contains a complete bibliography and has encompassed all the recent advances in plastic surgery.

J. K. NATTINGER

FRONTIER DOCTOR. By Urling C. Coe, M.D. 264 pp., \$2.50. The Macmillan Company, New York, 1939.

The author settled for practice at Bend, Oregon, in 1905, shortly after the town was established in a desert region being opened for settlement following irrigation projects. For some time the town was named Farewell Bend. It was a hundred miles from a railroad, and he was the only doctor in a radius of sixty miles. There was the usual collection of adventurers, gamblers, drunkards, thieves, together with respectable people who formed the population of every frontier town. The book consists chiefly of a recital of personal experiences, with many medical and surgical adventures which are not encountered in modern civilized days. He emphasizes the accumulation of sickness and injuries as the result of ignorance, supported by real and imaginary complaints. These titles suggest some of the fascinating tales related: wild west babies, delivery by telephone, horse thieves and cattle rustlers, prostitution on the frontier, the Doc as mayor. Perusal of this volume presents conditions and professional experiences that are gone forever.

THE PATIENT'S DILEMMA. By Hugh Cabot, M.D. 284 pp., \$2.50. Reynal & Hitchcock, New York, 1940.

The well known author says this book is the expression of a philosophy, the product of varied experience tempered by a long and profitable contact with all kinds and conditions of men and women. After describing the impact of scientific discoveries on medical practice, he gives his views on the element of good medical care, referring to numerous chronic diseases and suggestions of how they can best be treated. There follows a long discussion of price versus cost of illness, suitable responsibility being assigned to hospital and laboratory costs which are commonly the largest monetary factor. Mention is made of syphilis as perhaps the most important single cause of preventable disability, its successful treatment requiring a large expenditure of money. The author's recommendation to solve these problems is the establishment of group medical practice. He states, "good medical care should not be dependent upon the ability of the individual to pay." "Practice of medicine in this country is a legal monopoly." The bias of the author is toward government control of medical practice, his views being explained in considerable detail.

INTERNATIONAL CLINICS. Edited by George Morris Piersol, M.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia. Volume IV, New Series Two. 339 pp., \$3.00. J. B. Lippincott Company, Philadelphia, 1939.

This volume contains twenty original contributions by well known members of the profession, dealing with a variety of topics. Three are based on pneumococcal pneumonia and its varied treatment. Intractable pulmonary hemorrhage, massive hemorrhage from peptic ulcer, angina pectoris are discussed in papers assembling the latest information concerning them.

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Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

EDITORIALS

IF AND WHEN MEDICINE BECOMES A TRADE

If and when the time comes that the practice of medicine is declared to be a trade and not a profession, will the doctor be expected to adapt the manners and customs of his fellow journeymen in the several unionized crafts? And will the doctor be allowed to enjoy the special privileges now granted only to our union brothers?

For example, will carpenter Jones, who always insists on an appointment after office hours, raise a howl when we say: "Yes, Mr. Jones, we will wait for you after office hours, but you understand that, plus the regular fee the charge will be time and a half for overtime." And we wonder how it will be when Mr. Teamster wants us to make a house call on Sunday? "Well, Mr. Teamster, we are not allowed to make Sunday calls any more. The five-day week, you know. It's too bad. You will probably have to die; yes, the union regulations, you understand."

And we wonder will it be all right to form a picket line around all the drug stores that sell patent medicines? Will it be all right to import gangsters and sluggers to "knock off" any nonconforming medico who insists on performing an emergency appendectomy after hours? And will it be all right to have sit-down strikes in the hospitals when something doesn't please us? Will it be all right to pull a general strike until all the patients that owe us money pay up in full? And will it be all right to raise merry-ole-hell in general?

As physicians we have been caught in the middle of every strike, and we have borne it all meekly and without organized complaint. But, man-oh-man, if and when we join the ranks of our fellow unionists, and adopt their methods, what a jolly, crippling-paralyzing strike the physicians of America could impose. For, surely, the public will recognize our right to adopt the manners, customs and methods of our union brothers, once we are freed of the wearisome ethics of medicine, and legally become tradesmen within the full meaning of the word.

Of course, it will take a little time for our patients to become accustomed to the new order: slapping liens on property, boycotting price cutters, hand-grenading nonunionized hospitals, throwing stink bombs into sick rooms, contaminating the water supply. But it's all suggested in the spirit of progress, dear public, and you can't expect us to adhere to the horse and buggy methods of medical competition forever. Medicine must adopt modern methods; at least, a great many ultrascientific thinkers tell us so.

HAVE YOU CONTRIBUTED?

The National Physicians' Committee for Extension of Medical Service should not be confused with other groups or committees of medical men which have gained prominence during the past few years. It is new, it is exactly what the title implies, it will be unusually effective and it has been organized by the most stable and trustworthy physicians in the country. It has received the hearty endorsement of all state and county organizations in the Northwest as well as the nation but now needs the enthusiastic support of every individual physician in the three northwest states.

It may be that some have not grasped the significance and purposes of this new organization. Its aims have been fully expounded in the literature which has been sent out and previous editorials in *NORTHWEST MEDICINE* have set forth the reasons for existence of the committee. It may, however, be well to repeat certain facts about the group.

It has long been felt by those physicians who have studied the situation that organized medicine should carry to the public the true story of the achievements of the medical profession, its record in matters of public health and its aims and desires for the continued improvement of medical service to the people of this country. It is believed that critics of the medical profession should be publicly answered and proponents of political medicine should be shown up as the vote hungry politicians which they usually are. It is also desired to preserve all that is best of the present private practice of medicine and the independent hospital system.

Yet organized medicine has had neither the means, the time nor even the ability to do these things. In some cases the hands of existing organizations are effectively tied when it comes to such activities. It remains, therefore, for the new committee to wage war on behalf of those principles endorsed by the medical profession and this only it proposes to do. Each one of us as private prac-

tioners of medicine can see the benefit to the public and the advancement of medical science which will result from the activities of this committee.

A recent published report from the Committee listed the number of physicians in each state with the number of contributors. This shows that from eight to ten per cent of the physicians in our three states have contributed to the fund. While this is a small proportion of participants, they are among the larger percentage of contributors. In order to put over this movement it is necessary that everyone should do his part to provide the necessary funds to carry on the work. This, therefore, is a plea for a greater number of contributors.

POSTGRADUATE LECTURE COURSES

Postgraduate medical lectures have become an established institution in all parts of the country. Our Pacific Northwest states have scheduled such courses for the coming year which are of sufficient interest to warrant their listing. The oldest course of continuous operation has been that of University of Washington which this year will present its twenty-fourth annual course of lectures and clinics, scheduled for July 15-19. During all this period these lectures have been delivered in the third week of July, during which the Weather Bureau states there has been no record of rainfall. The faculty for this year's lectures will include Soma Weiss, Professor of Medicine of Harvard University; Richard B. Cattell, Surgeon-in-Chief of The Lahey Clinic, Boston; Charles F. McKhann, Associate Professor of Pediatrics, Harvard University Medical School; and Chauncey D. Leake, Professor of Pharmacology, University of California. The topics for lectures will be found on page 7 of the advertising section.

Pacific Northwest Medical Association was established in 1921, being the successor of Tristate Medical Society. Its clientele has included the profession of the Pacific Northwest with adjacent states and provinces of Canada. It has been in retirement for the past two years, but will be revived with a course of lectures to be held in Spokane July 10-13. It is proposed to have ten lecturers in this course, of whom the following have been assured at this date: F. A. Collier, Professor of Surgery, University of Michigan; W. G. Penfield of Montreal on Neurosurgery; A. J. Carlson, Professor of Physiology, University of Chicago; P. J. Hanzlick, Professor of Pharmacology, Stanford University School of Medicine; R. W. TeLinde of Baltimore on Gynecology; W. E. Chamberlain,

Professor of Roentgenology, Temple University; J. S. Lundy, Professor of Anesthesia, Mayo Clinic. In a future issue more information will be published concerning lectures and their subjects.

The Oregon profession maintains several notable postgraduate courses. Of special importance is the postgraduate course in medicine, whose first session was held in February in Portland attended by physicians from Washington, Oregon and Idaho. The annual postgraduate course in ophthalmology and otolaryngology holds its session in Portland, with large attendance from practitioners of this specialty. The annual postgraduate meeting of the Alumni Association of the University of Oregon has become a notable educational event. During the year lectures are scheduled under the auspices of certain foundations and organizations which bring before the profession some outstanding medical scientists connected with leading medical schools.

For several years Idaho State Medical Association has devoted its annual meeting to a course of postgraduate lectures, entirely abandoning papers from its members. The lecturers are recruited from the faculty of one medical school. This has proven a very satisfactory arrangement, and has provided sources of instruction pleasing to all in attendance. The course this year will be given at Sun Valley, September 11-14, in connection with the annual meeting of the State Association. The lecturers, all from State University of Iowa School of Medicine, will be F. M. Smith, Professor of Medicine; N. G. Alcock, Professor of Urology; C. E. VanEpps, Professor of Neurology; Arthur Steindler, Professor of Orthopedic Surgery; E. M. MacEwen, Professor of Anatomy.

In addition to these expansive course of lectures, societies of various specialists schedule courses during the winter, covering medicine, surgery, pediatrics, ophthalmology and otology, all of which serve to elaborate the postgraduate programs for the benefit of physicians in the three states. Attention is called to these courses of lectures to emphasize the fact that the medical profession of the Pacific Northwest is awake to the needs of professional advancement, and aim as far as possible to bring before its members specialists in various branches of medical progress.

OTO-OPHTHALMOLOGICAL SOCIETY

Pacific Coast Oto-Ophthalmological Society will hold its annual meeting in Spokane June 24-27. Guest speaker will be Walter B. Lancaster of Boston. The local committee is planning a trip to Grand Coulee as part of the entertainment of those in attendance.

NOVEL MEDICAL BROADCAST

Introduction and perfection of the radio have introduced a wide field for imparting information to the public on a great variety of subjects. It has become a bonanza for the promoters of proprietary medicines by reason of a hookup between their exploitation and broadcasting of timely information pertaining to domestic and foreign news as well as other lines of general education. Notwithstanding the claim of giving the public information concerning diseases and their remedies, as exemplified in publicizing their varied products, and while there may be a modicum of truth in the assertions of some of the announcers, for the most part they offer gross exaggerations and impossible claims for therapeutic results. At the same time remedies thus ballyhooed to the public return tremendous financial results to their promoters.

On the other hand, efforts have been put forth in various parts of the country to broadcast real information along medical lines not inspired by the purpose of personal enrichment nor upbuilding individual business enterprises. During the past six months a notable example of disseminating medical knowledge for educational purposes has been presented by Washington State Medical Association through its radio committee of its Public Relations Section, of which Dr. Edwin A. Nixon is chairman. This broadcasting is presented from King County Hospital, Seattle, in the presence of a patient whose ailments are described and discussed, with the patient himself participating. By means of proper script a trained announcer introduces the subject for consideration with announcement of the disease, accompanied by dialogue with the physician in charge of the broadcasting. The patient is questioned concerning his ailment, while comments on his hospital care and general condition are given by the nurse. The patient then being dismissed, there follows a medical discussion of the disease with reference to etiology and course of development in terms intelligible to the layman with brief reference to treatment.

The purpose of this educational broadcasting is to impart reliable information to the public relative to certain diseases, presented in an impersonal manner. Also it serves to offset to some extent the prevailing impression, propagated through various agencies, that the medical profession exists chiefly for its own aggrandizement. This hospital broadcast is conducted under the slogan "Appointment with Health." It is presented to the public through a hookup with nine stations in different parts of

the state. The series has terminated for this season after a course of twenty-two broadcasts during the past six months, the final presentation having been in the hospital surgery of an actual surgical operation, this being an interval appendectomy. The chairman of the committee has received numerous letters of approval from all parts of the state, conveying appreciation for the information transmitted, with the hope expressed that the State Association will continue its valuable form of public education for the coming year.

LOW INFANT MORTALITY RATES

Among the various indices published concerning health conditions, the most sensitive is said to be that pertaining to infant mortality. This is the number of deaths under one year in each thousand live births. In the United States during 1938 and 1939 these rates were respectively 50.5 and 48.2, compared with that of Great Britain for 1938 of 53. The latest available figures for other countries are those of 1937. They give Canada 76, Germany 64, England and Wales 58, Sweden 46, Neatherlands 38.¹

The lowest infant death rates are quoted for seven states of the Union for 1938 and 1939, the most favorable of all being Connecticut. Oregon and Washington are included in this number, their figures being respectively 39.2 and 34.7; 38.7 and 38.1. It is somewhat surprising to note the low rates in our two largest cities, those for the two years in New York being 38.3 and 37.1, while in Chicago they are listed as 33.9 and 31.1. It is said that these infant death rates are the lowest for any comparable population in the world. It is gratifying to note these low rates in the Pacific Northwest, showing that this section continues to stand among the healthiest in our land.

1. Editorial. J.A.M.A. 114:963, March 15, 1939.

USEFULNESS OF STATE SECTIONS

During the past year this journal has featured "State Sections," in which department are published each month announcements and stories concerning matters pertaining to the welfare of each of our three state organizations. Some members have been perturbed over the belief that this department has not attained its expected efficiency because the members do not read the information which is intended for them.

One procedure, which has been suggested to emphasize the importance of these monthly declamations, is to place on the program of a monthly meeting of each county society the reading of its State

Section in the monthly issue of NORTHWEST MEDICINE. In Portland, Multnomah County Society has adopted this plan. At one of the monthly meetings the Oregon section will be read before the society, thus assuring the attention of its members to the various matters of interest which have been featured. This procedure is recommended to other county societies.

CONTROL OF CANCER CAMPAIGN

All physicians are familiar with the active propaganda conducted in recent years by the American Society for the Control of Cancer, whose primary objective is popular education concerning the early diagnosis and curability of cancer. The purpose is to impress upon people in all parts of the country that the early recognition, followed by surgery or radiotherapy, can cure many cases of cancer which otherwise will become hopeless in a brief period of time. This work is the special function of organized units of the Women's Field Army, which during April will conduct its fourth annual campaign of cancer education. This will be supplemented by President Roosevelt calling attention to the need to "fight cancer with knowledge." All of our state medical associations have cancer committees which carry on continuous campaigns of education along these lines. Particularly during the month of April there should be united efforts of these various bodies to propagate effective educational programs.

SPOKANE SURGICAL SOCIETY

Spokane Surgical Society will hold its annual meeting at Davenport Hotel, Spokane, April 27. The guest speaker will be Verne C. Hunt of Los Angeles. The morning session will consist of a diagnostic clinic, in which four cases will be presented by members and discussed by Dr. Hunt. He will also lead a round table discussion at luncheon. The afternoon session will consist of six papers by members of the society and one by Dr. Hunt. At the evening banquet he will deliver an address.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The annual meeting of this association will be held in Rochester, Minnesota, April 15-17. The program includes papers from men in various parts of the country interested in goiter, which will be presented in morning and afternoon sessions. The program includes a paper by Brien T. King of Seattle on "A New and Function-Restoring Operation for Bilateral Cord Paralysis."

AMERICAN ACADEMY OF PEDIATRICS

All physicians of the Northwest are invited to attend the annual meeting of the American Academy of Pediatrics, Region IV, which will be held in Seattle May 30-June 1. Speakers: J. B. Bilderbach of Portland, national president; C. G. Grulee, national secretary; Henry Helmholz, Rochester, Minn.; E. B. Shaw, San Francisco; F. B. Gengenbach, Denver; E. E. Osgood, Portland; A. H. Spohn, Vancouver, B. C.

ORIGINAL ARTICLES**CERTAIN BIOLOGIC ASPECTS
OF CANCER***

NATHAN A. WOMACK, M.D.
ST. LOUIS, MISSOURI

In the experimental study of tumors the theoretical and technical approach is a complicated one. In the time allotted for this paper many of the methods of study can be referred to only briefly and there must of necessity be generalizations. The literature of carcinogenesis has become so extensive that no effort will be made to cover it here. The reader is referred to various detailed reviews of its specific aspects.

It has been said that knowledge of the nature of the malignant process that has accumulated in the past fifty years is probably as great as the accumulation of facts in all preceding time. There is undoubtedly considerable truth in such a statement. In all probability this greater understanding is due to utilization of certain tools that are available at the present time that did not previously exist. By tools I am not necessarily thinking exclusively of instruments of precision. Many of these tools represent knowledge in certain subjects that has developed especially in the past quarter of a century. Among such subjects may be found genetics, biochemistry, experimental embryology, immunology as especially related to virus diseases, endocrinology, organic chemistry, physics with its special application to radiation, cellular metabolism, etc. To these instrumentalities in particular do we owe the remarkable recent advance in information concerning the biology of cancer.

In the study of the biologic aspects of any particular disease it is first of prime importance to obtain a satisfactory experimental animal. In times past observations of the cancerous process were made on humans and, therefore, could not be controlled. While most animals are subject to malignant growth, these tumors are sporadic in their appearance and cannot be obtained in any quantity. The first great step in the study of experimental cancer might be said to have begun during the early part of this century, when it first became possible to transplant spontaneous cancer tissue from one animal to another. An identical tumor could be obtained, therefore, in a large number of animals.

It became obvious that tumor tissue was autonomous in the sense that it could survive transplantation from host to host indefinitely. At about the same time it became possible by inbreeding animals with spontaneous tumors, and particularly in mice, to develop strains that would develop spontaneous tumors of a certain organ in a large percentage of cases.

A decade later, by the use of specific irritants, normal cells were made to undergo malignant transformation. Shortly afterwards other irritants were developed until at the present time there are many substances that under certain conditions are able to bring about the development of cancer. Cancer was thus seen to occur spontaneously and as a result of certain well known stimulations. The problem of experimental carcinogenesis, therefore, very early began to resolve itself into two factors, one the hereditary susceptibility to the tumor and the other the effect of a specific irritant. We shall consider these two factors briefly.

The mouse probably serves as the best experimental animal for study of the heredity of tumors because of its hardiness, short life span and frequent occurrence of spontaneous cancers. If mice with known spontaneous tumors of a certain organ be inbred brother to sister for many generations, it is possible to develop a strain in which spontaneous cancer of this organ becomes more common. This is strikingly exemplified in cancer of the breast, in which strains of mice have been developed in which the female members develop such tumors in well over ninety per cent of the cases. At the same time other types of cancer may be relatively rare in these animals. To a lesser extent the same has been found to be true for cancer of the lung, lymphatic leukemia, lymphosarcoma, osteogenic sarcoma and other malignancies. Conversely, it has been possible to develop strains of mice in which spontaneous cancer of any type is a rare occurrence.

The above statements are by no means meant to imply that cancer as a disease is hereditary. As a matter of fact, in all probability such is not the case. The chief importance of the genetics of malignant disease seems concerned with the heredity of the susceptibility to the disease. Also needed is an external factor, that of stimulus. If the susceptibility is high, the stimulus does not need to be so great and, if the susceptibility is low, the animal can stand a considerable amount of such an external factor.

These principles of inheritance in relation to tumors have been summarized by Lynch as follows:

* Department of Surgery, Washington University School of Medicine, The Barnes Hospital and The Barnard Free Skin and Cancer Hospital, St. Louis, Missouri.

* Read before the Fiftieth Annual Meeting of Washington State Medical Association, Spokane, Wash., Aug. 28-30, 1939.

1. External agents cause cancer in mice.
2. The response to the agent is controlled by the constitution of the individual.
3. Constitutional differences in susceptibility are inherited.
4. Susceptibility is apparently organ specific.

It is impossible to duplicate such experiments in the human. No pure strains exist. It must be remembered, however, that genetic principles are biologic characteristics rather than species phenomena and, therefore, those truths found to be present in one group of mammals are generally present in others. There would thus seem to be little danger in translating the above hereditary principles concerning tumors in mice to tumors in man. Certainly what evidence we have at the present time points toward this. If the inheritance of tumor susceptibility occurs in the human, one would expect that homozygous twins exposed to more or less the same external influences should be prone to develop identical types of tumors. Such seems to be the case. Wherever a malignant tumor has been reported in one of two identical twins, in over half of the instances a similar tumor has been noted in the other. This has been especially marked in cancer of the breast, where the exciting stimulus is so often endogenous.

In this interplay between heredity and environment in the production of cancer the geneticists have done much toward clarifying their part of the problem. There is much more to be learned. Just how is this hereditary factor transmitted? How does a cell that is genetically susceptible to tumor formation differ from one that is not? This problem seems ultimately to fall into the realm of the biochemist. Lillie has emphasized this in a recent discussion of the possible relation between protein structure and the determinative role assigned to genes in development. By virtue of their large molecular size and complex configuration (consisting apparently in a network-like arrangement of amino-acid residues and purine groups) the possibilities of minutely graded diversification in the germinal proteins are unlimited. These compounds hold a controlling or key position in the metabolism of the protoplasmic system, and apparently they control or stabilize in a specific way the metabolic reactions which underlie the formation and distribution of the structure-forming compounds. The course of development thus depends for its stability and its special character on the specific molecular (or micellar) structure of the gene proteins. These are reduplicated automatically in each cell division and normally are passed on unchanged from generation to generation. But if their structure is altered, e. g., by slight positional or substitutional changes in the

determining groups, corresponding changes in the course of development may result (e. g., artificially induced or spontaneous mutations).

That such a genetic mechanism might be true is suggested by the recent work of Scott-Moncrieff who has studied the biochemic aspect of many of the genes having to do with the formation of plant pigments related to anthocyanin. Genes, that had as their function the power of oxidation, methylation and substitutions in various positions, were proved to act in a dominant capacity in the transmission of color.

It would seem safe, therefore, to consider genes as representing complex nuclear molecules of an enormous size and capable of constant reduplication of form. Any alteration of their own chemical structure, however minute, results in morphologic alteration. In the morphologic alteration seen in the presence of spontaneous tumors one would presuppose, therefore, a constant chemical change in the architecture of the gene molecule. Just how this is brought about genetically is still unknown.

In the human, insofar as the majority of cancers are concerned, we know much less about the environmental factor. Most tumors give no evidence of the action of any specific stimulus. Although for years certain occupations and certain customs have been observed to be associated with cancer, these have been so unrelated that but little progress in the study of their importance has been made until recently. Chimney sweep's cancer, mule-spinner's cancer, thermal burns, roentgen burns, radium poisoning, aniline dye tumors, the effect of parasites and endocrine disturbances represent only part of this heterogenous group of tumors known to be associated with external factors. In an effort to develop certain general principles as to the effect of environment upon tumor formation in a particular organ let us first consider those stimuli resulting from substances secreted by the body itself and in particular the endocrine glands.

Many years ago Leo Loeb and his collaborators, while carrying on breeding experiments in relation to the hereditary factors in cancer of the breast, noted that, while they were able to breed a strain of mice that in the majority of instances would develop spontaneous cancer of the breast, this cancer was almost entirely confined to the female members of the strain. Male mice showed but little tendency to develop cancer of the breast. In view of the fact that the only difference between the two groups of animals was that of sex, these workers studied the effect of the removal of the ovaries on the subsequent development of cancer. It was soon found

that, if the ovaries were removed in the first few weeks of life, a strain of mice that normally developed cancer could be made cancer-free in the vast majority of instances. If several months elapsed before ovariectomy, a small percentage of the females developed cancer. If the ovaries were removed eight or ten months after birth, there was very little difference in the cancer rate in comparison to the control group. After cancer had developed there likewise was no evidence of beneficial effect from ovariectomy. It seemed safe to conclude that in a susceptible animal the presence of certain ovarian secretions would result in the appearance of cancer of the breast.

An effort was made to confirm these results by transplanting the removed ovaries into spayed male mice of the same strain. The results were not convincing. Shortly, however, the sex hormone, estrin, was isolated in its crystalline form and these experiments could be repeated much more accurately. Lacassagne injected a solution of estrone benzoate subcutaneously each week in mice and found that cancer of the breast appeared. If the strain was high in spontaneous breast cancer, a much smaller amount of the hormone was necessary and the tumors appeared earlier. Male mice developed cancer as did the female mice, though not quite as frequently. If the strain of mice used was relatively low in spontaneous breast cancer, much larger amounts of the hormone were necessary and many of the mice showed no evidence of cancer. If the strain used normally showed no spontaneous cancer of the breast, the injection of estrone did not produce cancer. Here, again, was evidence of the fact that two factors are involved, the hereditary susceptibility and a specific stimulus. A decrease in the amount of one necessitated an increase in the amount of the other before the production of cancer. A total absence of either did not result in cancer, regardless of the hereditary susceptibility or the amount of estrone as the case may be.

That this genetic susceptibility to carcinoma of the breast is not a single Mendelian recessive factor, as was suggested by Slye, was shown by Little and his coworkers when they produced a large number of tumors in the first generation of hybrids derived from the mating of cancer and noncancer strains. That at least a part of this genetic susceptibility may not be chromosomal was indicated by Bittner, when he showed that, if litters from mothers of a high cancer strain nurse from female mice of a low cancer strain, the subsequent development of spontaneous mammary cancer is greatly reduced. In fact, Murray and Little feel that the extra chromo-

somal factor in the heredity of breast cancer in mice is "ten times as powerful as any possible chromosomal factor." These genetic factors seem to be peculiar to tumors of the breast. They seem to be closely related to maternal lines and, therefore, differ from the studies in many other kinds of cancer, where both the male and female lines seem to be equally involved.

The actual mechanism of estrogen action is still poorly understood. It seems to produce growth of the epithelial tissue of the mammalian breast. This has been thought by some to be a direct action on the epithelial tissue by the estrogenic substance. Certainly, ductal obstruction in lactating mice results in earlier and more frequent breast cancer. Apparently the stagnation of milk in the breast of a susceptible animal over a long period of time predisposes to cancer. There is considerable statistical evidence that cancer of the breast in women may at times be concerned with such a factor. Likewise, in mice virginity seems to delay the appearance of cancer of the breast. Just what this substance is that is present in ducts that tends to produce such changes one cannot say with any degree of certainty at the present time.

Secretions from the sex glands have to do with tumor formation in other portions of the body than the breast. Cancer of the uterine cervix, endometrial hyperplasia and myomata of the uterus have all been shown to be in some way related to the female sex hormone. Adenomata of the prostate, adenomata of the thyroid, fibroadenomata and chronic cystic mastitis of the female breast are all intimately connected with endocrine function.

When the chemical formulae of many of the estrogenic compounds are studied, one is impressed by the marked similarity between these and certain other estrogenic substances that are not normally found in the body and that are markedly carcinogenic. This is especially true in that group of sterids related to phenanthrene, for most of the estrogenic substances occurring normally in the body possess the phenanthrene ring. Our knowledge of most of these substances developed from a study of coal tar derivatives.

As early as 1775 Sir Percival Pott had noticed the relationship between application of soot to the skin over a long period of time and the appearance of cancer. This was especially apparent in the scrotal region of chimney sweeps and very few textbooks of surgery published since then have failed to mention this type of cancer. Strangely enough, in spite of previous attempts by many men, it was not until 1915 that a successful effort was made to re-

produce this phenomenon in an experimental animal. At this time Yamagiwa and Ichikawa applied a distillate of coal tar to the ears of rabbits over a long period of time and were rewarded by seeing the appearance of characteristic squamous carcinoma differing in no respect from the human counterpart of this type of tumor. In an effort to identify the particular carcinogenic substance or substances, Bloch demonstrated a few years later that the active agent was present in the high-boiling and, therefore, nitrogen-free fractions. A group of investigators at the Research Institute of the Cancer Hospital in London, headed by Kennaway, after working intensively on this subject for a few years, were able to show that a group of substances chiefly derivatives of anthracene when applied to the skin of mice over a long period of time or when injected subcutaneously could produce malignant tumors. Similar types of studies have been carried on in this country chiefly by Fieser and his collaborators.

While many substances of varying degrees of carcinogenicity have been isolated, the three most active have been found to be 1:2:5:6-dibenzanthracene, 3:4-benzpyrene and methylcholanthrene. The last mentioned substance besides being the most potent is likewise extremely interesting, due to the fact that it can be prepared in the laboratory by breaking down desoxycholic acid, one of the normal components of bile. That such a chemical degradation actually takes place in the body has not been demonstrated. It is interesting also, as has been mentioned, that many of these hydrocarbons are mildly estrogenic. In spite of the fact that every animal cell contains sterols related to cholic acid, it is not warranted at the present time to conclude that these endogenous substances act in any way as causative factors in the production of human cancer.

There are many other carcinogenic substances not related to the anthracene group. Outstanding among these are some of the aniline derivatives. Some of them possess an interesting tissue specificity. O-aminoazotoluol, for instance, when injected subcutaneously, produces no tumor at the site of injection but does result in a large percentage of transplantable primary liver cell carcinomas. Primary liver tumors can also be produced by feeding dimethylaminoazobenzol. B-naphthylamine, on the other hand, results in tumors of the urinary bladder and this and related compounds have become an important factor in industrial medicine because of the frequency of bladder papillomas and carcinomas in dye workers coming in contact with

these substances. Among the simpler carcinogenic compounds are arsenic and zinc chloride, the latter being chiefly concerned with the development of testicular growths and probably acting in a non-specific capacity.

The estrogenic hormones exert a specific growth effect on certain tissues chiefly found in those organs concerned in the sex mechanism. However, both Loeb and Gardner have noted instances in which fibrosarcomas have appeared subcutaneously at the site of injection and, since some of these animals were in a low cancer strain, the mechanism of the production of the sarcoma is probably somewhat different from that seen in the breast, where hereditary factors play such a dominant role.

As a rule, most of the carcinogenic hydrocarbons are not particularly tissue specific. There is often seen, however, a variation in sensitivity insofar as the species of the animal used is concerned and to a certain extent the strain of the animal. In those susceptible animals the carcinogenic substance must be in direct relationship to a tissue for a varying and considerable length of time. The type of malignant growth appearing depends upon the type of cell with which the agent is in contact. Subcutaneous injections generally result in various types of sarcoma, many of which are mixed. When applied to the skin the growth is usually a squamous type of cancer and, if the injection is made into the spleen, various types of lymphoid overgrowths appear. Tumors produced in such a way grow rapidly, metastasize and can be transplanted into other animals. In such transplants it is generally impossible to identify by any known method any of the carcinogenic substances used to produce the original tumor. There seems to be no exception to the fact that, once a malignant growth is produced, the reaction is self-perpetuating and irreversible. A malignant growth once started never reverts to its normal type. The cell may die or it may be killed but it can never be expected to develop again those growth restrictions of a normal adult cell.

Besides the forementioned relatively simple compounds, malignant growths may be produced in animals by another large group of substances poorly understood at present but none the less fundamental in their importance. While experimenting with the transmissibility of certain fowl tumors, Rous found a number of years ago that these tumors could be reproduced in other chickens by the use of cell-free extracts from the original tumor. The following year Murphy succeeded in transferring the tumors with desiccates. Although accepted at first with some hesitancy as true tumors by path-

ologists in general, it now seems unquestionable that filtrable agents can transmit lesions that fulfill all of the necessary criteria for true sarcomas and carcinomas. These agents are remarkably specific, a particular filtrate producing uniformly a particular type of tumor. They are often associated with the formation of immune substances equally as specific. Most of the tumors belong to the sarcoma series insofar as the fowl is concerned. The specificity of the chicken tumor agents was thought for a long time to be limited to the species, but recently a chicken myxoma has been transmitted to ducklings and a fibrosarcoma to guinea fowls and pheasants.

While complete purification has as yet not been obtained, these agents seem to possess more or less uniform physical and chemical properties. They are ultramicroscopic in size, grow only when attached to living nuclear material, withstand desiccation and freezing but lose their tumor producing activity when left in solution at room temperature for a long period of time. They withstand heating to 50° C. and tolerate a wide range of variation in the H-ion concentration of their environment. It can be readily seen that they fall into that large group of substances designated as viruses.

As the above data were accumulating in regard to fowl sarcomas, efforts were made to demonstrate similar substances in mammalian cancer. It was recognized that evidence of epithelial hyperplasia of a benign sort was occasionally seen as a result of a specific virus (*verruca vulgaris* in man and infectious papillomas in dogs) but rarely if ever did they become malignant. Several years ago Shope demonstrated that large warty masses occasionally seen on the skin of wild cotton-tail rabbits were due to a specific virus. These tumors could be reproduced in this and several other closely related strains of wild rabbits. They were always benign. In studying this effect Rous noted that, if the domestic rabbit was inoculated with the papilloma virus, a characteristic squamous carcinoma resulted. This tumor would metastasize and could be transplanted. The virus was specific only for the epithelium of the skin, although transplants would grow in the inner organs. One of the requisites for the induction of virus growth seems to be tissue injury or its resulting proliferation. Thus the Shope papilloma virus injected intravenously is without effect. If, however, the skin is irritated by rubbing with tar, there is a rapid localization of the virus in this region with the production of squamous carcinoma. This will take place often before there is much appreciable evidence of damage from the tar, and while the ensuing cancer is similar to that seen

after the long continued application of tar, the virus may be extracted from the tumor tissue.

On several occasions in time past filtrable agents were claimed to have been isolated from spontaneous mammalian carcinomas. These results could not be verified and more than likely were due to virus contamination. More recently, however, Des Ligneris, by treating chick fibroblasts with 3:4-benzpyrene in tissue culture and then washing his culture carefully, was able to produce a fibrosarcoma by transplanting the culture into fowl spleen. This fibrosarcoma bore morphologic resemblance to both the Rous 1 tumor and the Fuginami sarcoma. A filtrable agent was obtained from the sarcoma capable of reproducing the lesion. This agent gave antibody formation identical to the Fuginami tumor.

The above work has already been substantiated in part. If true, it is evidence of the production of a substance identical to a virus and present in a tumor resulting from the action of a carcinogenic hydrocarbon. Thus it can be seen that the mechanism of experimental carcinogenesis is involved in a complex way with nuclear chemistry, the nature of a virus and the nature of a gene. Further elucidation will depend upon the accumulation of more sufficient information.

METRAZOL IN TREATMENT OF PSYCHOSES*

D. C. BURKES, M.D.

PORTLAND, ORE.

Metrazol, chemically pentamethylenetetrazol, first synthesized by Schmidt and Heidleberg, is a camphorlike preparation known in Europe as cardiazol. There it has long been used as an analeptic in asphyctic conditions, for cardiorespiratory support in pneumonia and other exhausting infections, and as an antidote in overdoses of, and toxicity resulting from, such drugs as the barbiturates, opiates, avertin and chloral.

Its use as a therapeutic agent in the psychoses was first brought to our attention in 1935 by Meduna¹ of Budapest. He had earlier experimented with the hypoglycemia shock method but, attracted by the observations of Nyiro and Jabolnszky, Muller, Glaus and others that "epilepsy militated against the development of schizophrenic states," he began his experiments with camphor convulsions, using a twenty-five per cent solution in oil. He produced convulsions in guinea pigs as early as

*Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Gearhart, Ore., Sept. 6-9, 1939.

1. Meduna, L. and Friedman, E.: Convulsive-Irritative Therapy of Psychoses. *J.A.M.A.*, 112:501-509, Feb. 11, 1939.

1933, and in January, 1934, produced his first camphor convulsion in man. However, finding camphor insoluble, toxic, painful to the patient and uncertain in its reactions, he turned to cardiazol which proved to have all the advantages without the disadvantages of camphor and, in addition, greater rapidity of diffusion and absorption in the body. Sakel is also said to have done some experiments with cardiazol but the author has seen no record of his work or conclusions.

The new therapy was enthusiastically received in Europe but American workers were slower in accepting it, for the first report of results obtained in this country did not appear until September, 1937. To date 531 articles on the subject have been published in Europe and 258 in America.

Metrazol is undoubtedly effective in the treatment of the psychoses, particularly the affective states. However, its rationale has not yet been definitely determined, though several theories have been advanced as to its mechanism in convulsive shock. The theory of actual antagonism between epilepsy and schizophrenia prompted Meduna's experiments. Friedman² attributes results to the breakdown of mental barriers assertedly characteristic of metabolic defects of the schizophrenic brain; Jackson to stimulated brain function induced by increased oxygen supply to the brain during convulsion. Wortis,³ experimenting extensively on the effects of insulin and metrazol shock on brain metabolism, finds that metrazol has no toxic effect on, and does not primarily depress the oxidation rate of, brain tissue or produce associated lowering of the blood sugar. He further concludes that brain metabolism is diminished by decreasing or binding oxygen normally available for combustion of blood sugar, which diminution is responsible for the complete or partial amnesia so often encountered following convulsion. Masserman⁴ stated that metrazol has been shown to act on the spinal cord and medulla, the central portions of the vegetative nervous system, the somesthetic and visual cortex and to affect the motor side of the synapse. Interesting observations, provocative of further study, have been made by Cohen⁵ on the interruption of the stream of consciousness associated with the convulsions.

Noticeable changes in the blood picture during

treatment have been observed. Meduna records an increase in neutrophile leukocytes with proportionate reduction of lymphocytes, greater in patients showing remission, which he considered of prognostic value; and changes in the urine similar to those previously demonstrated in epilepsy—increased acidity, ammonia and phosphates, and decreased chlorides. Blomquist⁶ reported an increase in lymphocytes in all but one case but demonstrated no correlation between the change in leukocytes and improvement. Marked hypoglycemia has been noted following convulsion with a return to the fasting level in one to two hours. No significant change has been found in the cerebrospinal fluid.

Within themselves these findings are inconclusive but there is undoubtedly now open to psychiatrists a field of investigation justifying optimism. Wortis sums up the situation thus: "Schizophrenia is probably not produced by a single cause. Both biochemic and physiologic factors are important in any study or treatment of schizophrenia. We, as yet, have no direct evidence of the biochemic or metabolic disturbance of brain function that obtains in schizophrenia. * * * We already know many substances that can change brain metabolism and very likely will soon find others that will produce equally remarkable effects. It appears to me that valuable knowledge of the nature of mental illness will only come when our advance in brain metabolism and brain chemistry are more complete."

Ease of administration, early results and comparative safety have been the chief speaking points for metrazol therapy. The first two of these remain unchallenged but in recent months the question of possible brain damage resulting from the treatment has arisen. Evidence of subarachnoid hemorrhage and hemorrhage into the supraoptic nuclei have been found in animals injected with metrazol and in one a tear of the hypothalamus. However, the brain cortex was uninjured. Possible basal ganglion damage is one objection raised by those opposed to the treatment and, while structural changes have not yet been irrefutably demonstrated, such a contingency must be borne in mind.

Accidents such as dislocations, fractures and biting of the tongue deserve more immediate consideration. Several authors have lately reported the occurrence of dislocations and fractures, chiefly compression fractures of the vertebral bodies. I am in no position to comment on this angle for

2. Friedman, E.: Irritative Therapy of Schizophrenia, Review of Twenty Cases. *Am. J. Psychiat.*, 94:355-372, Sept., 1937.

3. Wortis, S. B.: Effects of Insulin, Metrazol and Camphor Convulsions on Brain Metabolism. *New York State J. Med.*, 38:1015-1021, July 15, 1938.

4. Masserman, J. H.: Action of Metrazol on Hypothalamus of Cat. *Arch. Neurol. & Psychiat.*, 41:504-510, March, 1939.

5. Cohen, L. H.: Return of Cognitive Conscious Functions after Convulsions Induced with Metrazol. *Arch. Neurol. & Psychiat.*, 41:489-494, March, 1939.

6. Blomquist, J.: Effect of Induced Metrazol Convulsion on Leukocytic Blood Picture. *Bull. Menninger Clin.*, 2: 188-189, Nov., 1938.

in a series of twenty-five cases receiving a total of 246 injections no such disasters have occurred. The frequent complaints of back pain have been thought to be muscular or, in older patients, due to a stirring up of latent arthritis. In two cases where fracture was suspected roentgenograms revealed no bony pathology. However, the possibility of fracture is not to be disregarded.

Fatalities among patients receiving metrazol have been reported but it would appear that metrazol and the attendant convulsion were the secondary, not the primary cause. It is possible that more fatalities have occurred than have been reported but even so the incidence is so low that it does not constitute a deterrent to the therapy. The development of heart complications, such as auricular fibrillation and flutter, have also been reported but it would seem that by careful selection of cases and precautionary examination prior to institution of treatment such complications may be avoided.

Contraindications are few but imperative. Organic heart disease, arteriosclerosis, febrile diseases, abnormalities of laboratory findings and history of unconsciousness following head injuries rule out the treatment. Careful preliminary examination, including electrocardiograms which should be run as a matter of routine, is of the utmost importance, if unfortunate complications are to be avoided.

The technic of administration, care during and following convulsion, the various manifestations of the convulsion, and the patient's reactions are now familiar to most. The consensus of opinion is that the number of injections in a course of treatment is governed by the patient's response; some are improved after two or three injections, others only after a greater number. Complete remissions are often spectacularly sudden. Improvement is usually equally sudden, and an increase in number and quality of remissions in treated cases over spontaneous remissions obtains. The importance of psychotherapy following treatment has not always been sufficiently emphasized. It has been suspected, in some instances, that relapse may have been due to inadequate attention following the course of treatment.

Some authors contend that convulsion is of secondary importance, assuming that the manner and speed of interruption of stream of consciousness is paramount. My experience, corroborated by that of others, is that subconvulsive doses leave the patient restless, irritable and often acutely disturbed for some hours or even an entire day. Most noticeable is the patient's profound apprehension concerning further treatment. This is seldom seen

and, if so, is less marked in patients exhibiting consistent convulsions.

REPORT OF CASES

Case 1. A. W., female, single, age 28. Diagnosis: dementia praecox, five years duration. Two injections; $3\frac{1}{2}$ and $4\frac{1}{2}$ cc. Discontinued at request of family; resumed after three months. Nine injections, dose range $2\frac{1}{2}$ to $5\frac{1}{2}$ cc. One convulsion on 1 cc. Acutely excited after the seventh (a subconvulsive dose). Unimproved.

Case 2. E. N., female, single, age 25. Diagnosis: schizophrenic reaction type. Course of insulin with remission followed shortly by a severe sinusitis and mental relapse. Metrazol instituted. Three injections; dose range $3\frac{1}{2}$ to 6 cc. Recovered. Now employed.

Case 3. V. R., male, single, age 31. Diagnosis: dementia praecox, five years duration. Over one hundred insulin shock treatments followed by three metrazol injections one year earlier. Recently thirty metrazol convulsive treatments; dose range 4 to 11 cc. Slight improvement.

Case 4. L. A., male, married, age 36. Diagnosis: schizophrenic reaction type, two months duration. Insulin treatment with improvement to a certain point. Metrazol instituted; two injections. Initial dose 5 cc; subconvulsive reaction. Repeated immediately with 6 cc. Major convulsion, approximately sixty seconds, followed by temporary spasm of both masseter muscles. Second injection $6\frac{1}{2}$ cc. Major convulsion. Apparent recovery; employed for past nine months.

Case 5. J. M., female, married, age 56, no children. Diagnosis: reactive depression, involutional basis, many months duration. Seven metrazol treatments; dose range 4 to 7 cc. Apparently recovered and well for six months but has recently shown return of mental symptoms.

Case 6. J. A. D., female, married, age 61. Diagnosis: involutional melancholia, agitated, many months duration. Nineteen injections, dose range 4 to 9 cc. Slight improvement.

Case 7. M. B., female, divorced, age 34. Diagnosis: psychasthenic depression, suicidal tendencies. Four injections. Gradual improvement and return to employment. Recently admitted to county hospital because of infected foot. Still neurotic.

Case 8. V. B., female, married, age 49. Diagnosis: involutional depression with agitation. Two suicidal attempts. Fourteen injections, dose range $5\frac{1}{2}$ to 10 cc. Marked improvement. Returned home but only fair adjustment.

Case 9. F. R., female, married, age 23. Diagnosis: puerperal psychosis (four weeks post partum); later revised to dementia praecox. Twenty injections; $3\frac{1}{2}$ to 15 cc. Three distinct periods of temporary remission. Finally committed to state hospital. Unimproved.

Case 10. G. W., male, married, age 28. Diagnosis: schizophrenic reaction type. Eight injections at irregular intervals. Period of apparent remission. Returned to work but first day failed to return from lunch and later found in a confused state. Three or four weeks later returned to work again but within a week became confused and excited. Committed. Unimproved. (Paroled two months ago, apparently recovered.)

Case 11. G. J., female, single, age 32. Diagnosis: dementia praecox of short duration. Ten injections, $6\frac{1}{2}$ to $11\frac{1}{4}$ cc. Unimproved. Committed.

Case 12. S. V., male, single, age 18. Diagnosis: dementia praecox, short duration. Six injections. Unimproved. Committed because of limited finances.

Case 13. E. S., female, married, age 62. Diagnosis: involutional melancholia, thirteen months duration. Four injections; 5 to 7 cc. Recovered and well for four months. Relapsed. Poor home environment. Metrazol again instituted. Three injections. Committed because of limited finances. Unimproved.

Case 14. W. S. S., male, married, age 46. Compulsion state with depression. Eight injections; $5\frac{1}{2}$ to $9\frac{1}{2}$ cc. Marked improvement. Returned to work and continuing after eight months. Still has occasional periods of mild depression.

Case 15. S. A., female, single, age 45. Diagnosis: compulsion state, fifteen months duration. Nine injections; $4\frac{1}{2}$ to $11\frac{1}{2}$ cc. (11 cc. required as convulsive dose; $4\frac{1}{2}$ to 9 cc. failed to produce convulsion). Recovered.

Case 16. M. M., female, single, age 55. Diagnosis: involuntional melancholia with paranoid trend, one year duration. Eight injections; 5 to 7 cc. Marked improvement and satisfactory readjustment.

Case 17. S. B., male, single, age 28. Diagnosis: dementia praecox, four years duration. Twelve injections; 5 to 9 cc. Improved.

Case 18. G. W., male, married, age 58. (Old head injury.) Diagnosis: involuntional melancholia. Eight injections; $4\frac{3}{4}$ to $8\frac{1}{2}$ cc; $8\frac{1}{2}$ cc. required as convulsive dose. Recovered.

Case 19. A. J. M., male, married, age 32. Diagnosis: manic depressive excitement. Twenty-six injections. Four periods of remission; two paroles. Readmitted and remaining in sanatorium. Metrazol discontinued Aug. 29. Marked improvement.

Case 20. D. C., female, widow, age 55. Diagnosis: involuntional melancholia. Nine injections. Acutely disturbed following second. Improved for a time but relapsed. Committed. Unimproved.

Case 21. S. J., female, single, age 40. Diagnosis: involuntional melancholia with excitement. Six injections; 5 to $8\frac{1}{2}$ cc. Marked improvement.

Case 22. T. H., male, single, age 24. Diagnosis: schizophrenic reaction type. Three injections; $5\frac{1}{2}$ to $8\frac{1}{2}$ cc. Third injection subconvulsive dose, immediately repeated. Delayed reaction; major convulsion with acute mental excitement for fifteen minutes. Left hospital markedly improved.

Case 23. C. McC., female, married, age 40. Compulsion state with depression, seven or eight months duration. One suicidal attempt. Five injections; 5 to $5\frac{1}{2}$ cc. Recovered only after several weeks' psychotherapy.

Case 24. A. H., female, widow, age 56. Diagnosis: involuntional melancholia with agitation. One suicidal attempt. Eight injections; 5 to $10\frac{1}{4}$ cc. Complete remission with relapse. Committed. Unimproved.

Case 25. V. A., male, single, age 28. Schizophrenic state with depression, one and a half years duration. Five injections; 5 to $7\frac{1}{2}$ cc. Improved.

	Slight Improvement	Marked Improvement	Unimproved	Recovered	*Temporary Remission	Total
Schizophrenia	2	2	3	2	2	11
Manic Excitement		1				1
Involuntional Melancholia	1	3	1	1	3	9
Compulsion State and/or Psychanesthesia		2		2		4
Totals	3	8	4	5	5	25

*Temporary remission indicates patients relapsing after apparent recovery.

Only those cases which have resumed normal contacts at home and work, maintaining an apparently complete readjustment for a period of not less than nine months are tabulated as recovered. Those who have returned to their previous environment but show less satisfactory readjustment are listed under marked improvement. Temporary remissions cover cases which were thought to be

recovered but relapsed after an interval of from three to six months. Cases under the headings slightly improved and unimproved are, respectively, those who have responded only slightly or not at all.

CONCLUSIONS

In favor of the treatment are such salient points as ease of administration, minimum of nursing requirements, early response of the patient, better quality and incidence of improvement in treated over untreated cases. Adverse aspects are inadequate knowledge of the mechanism of the drug, possibility of brain damage, heart complications, and fractures and dislocations resulting from the convulsion.

It is generally agreed that involuntional melancholias and agitated depressions show the most gratifying response, while schizophrenics and manic depressives respond more slowly and less satisfactorily.

As yet it is too early to determine with any degree of accuracy what aftermath may arise from the induced convulsion in the human being. Until the rationale of metrazol is ascertained, this question will constitute the chief check on convulsive therapy. Dangers of heart complications and fractures or dislocations are elements that can be reduced to a negligible quantity by careful management and selection of cases.

Whatever one's disposition toward metrazol convulsive therapy may be, the fact remains that it has indicated that the functional psychoses may possibly be benefitted by more dynamic methods than have heretofore been employed.

NITROGEN GAS CONVULSIVE THERAPY

CLIFFORD HALVORSEN, M.D.*

FORT STEILACOOM, WASH.

Reports of convulsions during inhalation anesthetic administrations are not uncommon. The reasons offered vary from predisposition due to neurotropic infection to lowered convulsive threshold of predisposed nonepileptics. Practically all of the inhalation anesthetics have at some time produced convulsions (Sollman). Without going further it may be mentioned that adrenalin, insulin, morphine, atropin, strychnine, asphyxia, sympathin E (Rosenbluth) and varieties of acetylcholine (Engle) influence the disposition toward convulsions.

The deliberate production of convulsions by nitrogen mixtures had its incipency at the University of Toronto. Experiments have been conducted

*Senior psychiatrist, Western State Hospital, Ft. Steilacoom, Wash.

in scattered sections of the United States. But the literature is scant relative to therapeutic application in the treatment of certain psychoses. Because of the comparatively less severe convulsion and danger of vertebral and extremity fracture we have used pure nitrogen as a form of convulsive therapy in schizophrenic and involuntal depressions. It is felt patients in the upper age brackets with brittle bones have a wider margin of safety than with convulsant doses of metrazol.

The technic used is simple. The patient is given insulin sufficient to produce coma. And in about two hours myoclonic jerks occur, due to the partial asphyxia of the insulin action. At this stage pure nitrogen gas is administered by mask through a rebreathing bag. All mask outlets are closed. No atmospheric air is admitted. The lime filter is shut off. In from one to two minutes cyanosis definitely appears and gradually deepens. Tonic stiffening begins on an average of three to four minutes, noticeable first in the small muscles of the eye globe, fingers and toes. The eyes fix straight ahead and the digits flex. The tonic convulsion includes all the body muscles during the next thirty seconds. The end point we use to determine maximum tonic spasm is apnea due respiratory muscle spasm. At this point the mask is removed and the patient turned to the prone position. This serves to drain saliva, if there is any, and prepare the patient for artificial respiration, if this is felt necessary. It has not been necessary so far, and we permit the apnea to last as long as it can naturally to accentuate the asphyxia. That is also the reason for using a closed mask, rebreathing bag and no filter. It is felt the least harmful but maximum asphyxia is produced by this method.

Modifications described by the Toronto workers are essentially those of administering nitrous oxide anesthesia and gradually increasing the nitrogen percentage. These workers use induction methods of open mask and filter. That is because insulin coma is not utilized and excitement must be minimized.

Nitrogen is the gas of choice because of the high solubility and ready release due to the low partial pressure value of nitrogen. The patient's color returns to normal within five to ten seconds after respiration recommences. And usually sufficient glycogenolysis follows the asphyxia to neutralize the insulin and awaken the patient from the coma. Upon awakening the patient eats his withheld breakfast with relish. A tendency towards jovial sociability replaces the pretreatment dourness.

Out of twenty-two convulsions one patient de-

veloped headache. This was felt to be due to intracranial tension following the great rise in blood pressure and fluid extravasation. Having had similar reactions following metrazol convulsions which were relieved by hypertonic sugar and sodium chloride solutions, this one patient was given 100 cc. of 10 per cent saline intravenously and obtained relief in thirty-five minutes. There have been no bone injuries and while muscle stiffness occurs this is not the extreme soreness following metrazol convulsions.

COMMENTS

Anoxemia has been the most constant finding in the chemical therapies for some psychoses. It is commonly known definite capillary dilatation accompanies asphyxia. There is also a rise in blood pressure. Intimal proliferation occurs in cerebral vessels with repeated shocks of asphyxia. A diabetic swing occurs. All of these reactions are natural phenomena directed towards self-preservation of the total organism. Detrimental side actions will occur as with operations. One feels justified in utilizing these principles, however, when the mortality and disabling incidence is well within the accepted limits. And with care the percentage may be held very low.

The principle of shock, or preferably sudden production, of anoxemia has a stimulating rebound effect on the medullary centers. The slowly progressive asphyxial states tend to leave centers depressed. This depends, of course, upon gas concentrations. The anoxia of insulin therapy is comparatively mild, on an average being 2-5 per cent. The hemoglobin saturation is 30 per cent lower in cerebral venous blood than arterial blood after metrazol. Saturation will average between 10 and 15 per cent with nitrogen inhalation as given by Himwich and coworkers. Narcosis therapy cannot be held constant enough to develop "suddenness and rebound" reactions so stimulating to the circulatory center.

We are using the insulin in connection with nitrogen and metrazol to allay fear of convulsive therapy, lessen excitement, and because of the additional asphyxia it offers. It also helps diminish the clonic phase of metrazol convulsions, during which the injuries usually occur. It dilates the capillary bed, stimulating proliferation. The total cerebral blood supply is increased and the counter-acting sugar nourishes cerebral cells. Moreover, it is not as severe a depressant as barbitol. Other biologic and chemical modifications need not be mentioned in this discussion.

Convulsions per se are not desirable. They accomplish no good in themselves. It is what convul-

sions represent in terms of cerebral, cellular asphyxia and associated biologic alterations that is beneficial. These somatic reactions reverberate in mental reactions, if chronicity does not prevent it. If the disorder has destroyed protoplasmic reactivity, no changes of benefit result.

A lengthy discussion of psychiatric results may be best avoided by comparison with metrazol. This drug produces a tonic effect leading to mild euphoria, desire for work and increased cerebral activity such as volubility and a clear sensorium. An average of six to eight grand mal reactions, representing two or three weeks' time using metrazol, has an equivalent of ten to twelve nitrogen convulsions over the same time interval. The nitrogen effects are clinically diminutive metrazol reactions. By using these combinations mental improvement requires half the time as with insulin. And the results are, *prima facie*, comparable to operative results. Maybe the patient would have improved anyway, but we know our efforts have speeded up the process. Appropriate psychotherapy and follow-up care need no further explanation here.

SUMMARY

The dangers of fractures caused by metrazol therapy can be decidedly reduced by the use of nitrogen gas inhalation. Nitrogen produces anoxemia which leads to a tonic convulsion. Combined with insulin therapy, twenty-two convulsive reactions in seven patients has led to rapid improvement toward the normal personality without the fear reactions produced by the use of metrazol. The procedure is simple and can be used on more patients than are available for metrazol therapy.

PRACTICAL APPROACH TO ANXIETY TENSION STATES*

HENRY H. DIXON, M.D.

AND

GERHARD B. HAUGEN, M.D.

PORTLAND, ORE.

Recognition of the fact that certain physical symptoms may have an emotional causation is as old as medicine. Every physician recognizes in his patients symptoms which he feels sure are due to emotional tension and not to morbid anatomic processes, but as a rule feels incapable of giving the patient much constructive advice toward alleviating them. We feel that, even within the scope of a paper as brief as this, certain procedures can be described which will not only materially alleviate the patients' suffering but will also, through

use, enable the average physician to lay a foundation for more extensive psychotherapeutic procedures.

We all recognize that a large number of the patients who visit chiropractors and naturopaths and appear to get relief from their symptoms, had no organic pathology to begin with. They did have a symptom to which an organic cause had been ascribed. The quack whom they consulted as a rule agreed with their self-made diagnosis and, if in the course of time the symptom was relieved, the patient was "cured."

In a somewhat similar way, various cults, such as Christian Science and the Unity Movement, give relief from physical symptoms through certain psychologic maneuvers, and here, again, the patient has usually diagnosed himself on the basis of a symptom where no pathology existed.

There is a definite group of physical complaints which has been designated as "anxiety tension state." The clinical picture is usually so clear cut that once recognized it will not be easily confused with anything else. In fact, this basic syndrome is present at some time during the development of every psychoneurosis and it has been found practical to use the presence or absence of it as the means of making a differential diagnosis between an organic and functional condition. If no history of such a syndrome can be elicited in the early development of the presenting condition, one can be quite certain that the symptoms of which the patient complains are not due to a psychoneurosis.

The anxiety tension syndrome includes the following complaints: (1) aching or drawing feeling in the back of the neck, or bandlike constrictions at sides of the head, (2) occasional brief blurring of vision, (3) periods of tachycardia and/or extrasystoles, (4) cold hands and feet, (5) sweaty palms, (6) dry mouth, (7) choking sensations, sometimes with a globus, (8) gastrointestinal disturbances, usually constipation and sour eructations or "heart burn."

These symptoms are due to excess and continuous stimulation of certain nuclei in the hypothalamic portion of the brain. The majority of them have been elicited experimentally in animals by direct stimulation. In the human they are produced by cortical activities of certain types, in which the individual feels anxiety, fear or apprehension. Every normal human being has experienced these symptoms at some time. Any single one can be due to a specific pathologic process, just as pain in the chest may be caused by many varied conditions. However, no single condition except

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hypothalamic stimulation can produce them all at once.

As a rule, the patient will complain chiefly of one or two of these symptoms, usually the rapid heart or gastrointestinal upset. On questioning, however, one finds that most of the other above mentioned group are or have been present. The patient will usually also complain of nervousness and recognize the presence of unusual and unwanted tension.

We have found that the average person coming to the out-patient clinic of the medical school can understand the origin of these symptoms, if they are explained to him in a nontechnical way, and that merely through being recognized they become much less of a disturbing factor. Our explanation to the patient follows pretty much the following line.

It may begin with the question, "What is nervousness?" "Is it due to something actually wrong with the nerves or is it due to the way you feel about things?" The patient is usually able to answer this question and with a little help arrive at the conclusion, based on his own previous experience, that nervousness can be due to certain experiences that he goes through. Analogies are used, such as the way one would feel if a holdup man poked a gun in one's ribs; the way one feels when one has narrowly averted an automobile accident, and similar experiences which the patient has either had or can easily recognize. When the patient realizes that at least some of these physical symptoms have been experienced before, due purely to an emotional experience, one proceeds to a more specific explanation of the way the mechanism works.

The patient is told that there is a certain portion of the nervous system which functions automatically, which regulates the speed of the heart, the way our digestive organs work, the temperature of the skin, the flow of saliva or of tears and numerous other normal functionings of the body. As analogies one explains the way the heart speeds up during excitement, blushing, the flow of tears when one is sad, etc. The patient recognizes all of these as natural phenomena which have given little cause for apprehension previously.

One then proceeds to explain how any emotional stimulus, no matter how slight, produces some temporary alteration in the way the organs work. He is shown that these temporary changes are actually present but they are not due to any disease of the organs but to the fact that for the time being some organs are not functioning in quite the

usual manner. It must be made clear to him that the physician does not feel there is anything imaginary about these complaints, that the heart is actually pounding faster at times, that the digestive tract is actually not functioning in a most desirable way. The point must be stressed, however, that through physical examination it has been determined that these symptoms are not due to any specific disease process but to some prolonged emotional tension.

From this point on the procedure must vary according to the patient. In many cases he is at this time worried about financial circumstances, marital disturbances or similar problems which may be of a rather temporary nature. In such a case his arrival at an acceptable solution to his problem will remove most of the emotional factors which have produced the tension symptoms, and reassurances of the harmlessness of the symptoms may be the most that one can do.

In some cases, where the tension is obvious, the problem will be such that the patient is reluctant to speak of it. Here it is a matter of the physician's acquaintance with the patient which must largely decide whether he should go ahead and probe as to the specific traumatic factors that are causing the tension, or to wait awhile until the patient himself decides that the physician's explanation has been correct and he can then perhaps talk over the problem with him. One caution must be made in regard to any attempted probing; people do become upset about other things than sexual matters and one must not be led by the reading of the works of Freudian disciples immediately to assume difficulty in the sexual field. On the other hand, misunderstandings over such things as masturbation, coitus interruptus, lack of satisfaction in the performance of the sexual act, etc. are sometimes the causes of considerable tension.

Occasionally a situation is found, in which one of the symptoms of the tension state has become the main cause for continued upset. In these cases one finds that at some time previously the individual went through experiences which produced the tension syndrome. This experience is past and is no longer a cause for anxiety. During the acute tension state, however, the individual noticed particularly the unusual functioning of some organ, rapid heart, gastric upset, constipation, etc., and this has now become the main cause of continued apprehension. In such a case it is necessary, besides explaining the symptoms as earlier described, to show how this process has developed. The patient must review his earlier experience with ten-

sion sufficiently to realize how this one symptom which now bothers him became a cause for preoccupation, so that some of the apprehension continued in spite of the fact that the original cause is long past. These are the people whom we call "heart conscious" or "bowel conscious." They usually require repeated explanation and demonstration before they can again accept their symptoms as normal functionings of the body.

In explaining to a "heart conscious" patient the mechanism producing his symptoms, it facilitates matters to point out to him that he has begun to be much aware of his heart. He is consequently checking up on it to see how it is functioning. Due to his continued apprehension concerning it, there will be a slight increase in activity each time he starts to observe it. Therefore, it seems to him that his heart is constantly beating abnormally when as a matter of fact during the moments when his attention is held by other things, it is functioning without difficulty. These people in time become very critical of and sensitive to any change in the heart's rhythm and find it increasingly more difficult to ignore its action.

Similarly, a person, who is perturbed over the workings of his intestinal tract, may become very sensitive to any gaseous gurgling or even to movements of the intestines. In the latter case one usually finds a cathartic habit as well, and it is sometimes difficult to persuade the person to cease his purging for a long enough period of time to allow the bowel again to function in a normal way.

The beneficial results from explanation to the patient of the mechanism producing his symptoms lie chiefly in the fact that it is intangibles that we most fear. When the physician is able to explain to him not only that his symptoms are harmless but also just why he has them, he has removed one big cause for apprehension. Sometimes the problem which has produced the tension is such that the doctor can neither give advice nor aid in solving it, but, if he can set the patient's mind at rest in regard to his body, he has done much to decrease the load which the person is trying to handle.

Most of the patients who are excessively troubled with tension symptoms have developed a habit, through the years, of "bracing" themselves for any new or strange situation. They have not learned to relax and try to take matters as they come along, but tend to anticipate difficulties, to "cross bridges before they get there." Recognition of this habit of reaction in the patient enables the physician to give some aid in expanding the individual's philosophy of life. Most persons are able

to recognize this characteristic when it is pointed out to them, and with some help take steps toward correcting it.

The most important reason for handling of these problems by the physician in general practice is that he is the one who usually sees these conditions in their incipiency. A little time spent in explanation early in the process can prevent the development of a greater preoccupation with the body's working later on. Most of the true neurasthenias that we see (persons who are using physical symptoms as an excuse for not taking their part in life) have seen physicians earlier in the course of their disease and have focused on what were at that time tension symptoms, because of lack of proper explanation by the physician.

It must be borne in mind that the patient who is agitated and anxious is not in the best situation to understand fully the physician's explanations the first time he is seen. All that he may get out of the first visit is some feeling of reassurance that this doctor really appears to know what is wrong. It usually requires several repetitive explanations to give the patient sufficient insight into his condition so that he can set his mind at ease about it.

It has been the traditional treatment of these cases to prescribe a sedative. Sometimes, during the time the patient is taking the sedative, he arrives at some acceptable conclusion regarding the problems that he has to meet and his tension symptoms then disappear. He has, however, no more understanding of his symptoms than he had previously and the next time that some event upsets him, he will again experience and worry about them. We all know people who are chronic worriers and are consequently going through such experiences. In such cases, above all, it is essential that the patient gain an understanding of his condition because here the possibilities of the development of neurasthenia or similar conditions are most pronounced.

A word of caution must be given concerning prescription of sedatives or placebos. If one explains to a patient the causation of his symptoms as described above and then prescribes medicine, there is bound to arise in his mind a question as to the validity of the explanation. Therefore, it is easier that the patient be told that the sedative prescribed is merely for use as a "crutch" to aid him in obtaining sleep and rest while his problem is being solved. He must realize that the medication is not the cure but merely something to make him more comfortable while the cure is being effected, just as in the prescription of morphine for postoperative pain. We have found it possible to handle most of these

cases with no sedation whatever, and feel that on the whole quicker results are then obtained, since most sedatives also tend to slow and confuse the patient's thinking.

In conducting the interviews, our experience has indicated that brief sessions, lasting as a rule not over fifteen minutes, produce the quickest results. One can tell the patient, in this period, all that he can "digest" during the day. The physician must keep control of the situation, as a teacher does in the classroom. The patient's questions must be answered, but it is necessary that he be restrained from airing his views to any great length. To allow him to do so usually leaves him as confused as ever. Instead, he must learn to concentrate on what the physician is telling him.

A final point we wish to stress in regard to these cases is that the patient is not adopting these symptoms as an excuse to "get out of something" or on the basis of some unconscious wish fulfillment. There are cases of that nature, the neurasthenias mentioned above. The anxiety tension state patient, however, is really suffering and sincerely wishes to be rid of his ailments. He is a normal individual, faced with seemingly intangible problems, and he is experiencing the physiologic responses that every person undergoes under such circumstances. He deserves sympathetic and understanding help to solve his problems, and he will respond with a full measure of gratitude to the physician who gives it to him.

PEDIATRIC TREATMENT OF THE ACUTE EAR*

NORMAN WARD CLEIN, M.D.
SEATTLE, WASH.

About ten years ago Brenneman, in one of his usually excellent articles, distinguished between pediatric and otologic treatment of ear conditions in children. The pediatrician or general practitioner is called first to see the sick child. He diagnoses an upper respiratory infection and watches its progress. In three or four days the patient is either much improved or manifests symptoms of some complication. The child may complain of pain in his ears. Infants and young children frequently do not tell you they have painful ears. Crying out at night during a very restless sleep is usually a cardinal symptom of otitis in babies.

Examination of the ear requires gentleness and tact. The child's confidence must be gained and held by kindness, patience and truthfulness. The electric otoscope is a simple and effective instru-

ment aiding in the diagnosis of ear conditions. The clinical course and prognosis of ear infections has been considerably changed for the better in the past few years by the use of sulfanilamide.

Inasmuch as ear conditions are commonplace in pediatric practice, it is highly important for the pediatrician or general practitioner who treats children to have developed a definite routine of treatment of the acute ear. This treatment should have the following objectives: (1) prevention of the spread of the infection to the ears, (2) conservative medical treatment of the inflamed ear, (3) paracentesis if necessary, (4) careful observation and patience in treating the complications that may arise from a draining ear.

The following suggestions have worked quite satisfactorily in treatment of acute ears in infants and children in private practice:

When a patient is first seen with an upper respiratory infection that also appears to involve the postnasal spaces, it is advisable to use some form of nasal therapy to shrink these tissues. Neosynephrin solution, $\frac{1}{4}$ per cent, used at least every two hours or more if necessary, will keep the nasal passages clear. An ear infection is less apt to occur, if air can move freely in both directions in the nose. Neosynephrin is clean, colorless, odorless, does not sting or burn, acts quickly, shrinks the tissues for several hours, and is stable.

Even with the most careful treatment, occasionally an ear infection will develop. Diagnosis of an acute ear having been established, the next question is whether or not the infection will subside. It may be advisable, if the nasal discharge is thick and copious, to use frequent nasal irrigations of salt solution (with a dropper), followed by nose drops. This cleanses the nose and also allows the drops to reach the postnasal spaces. Shrinkage of openings into the eustachian tubes and sinuses, with a resulting freer drainage, gives great relief.

Sulfanilamide is usually given at the onset of the upper respiratory infection, if the child has a fever. The dose is graduated approximately as follows: A year old child may be given three 5 grain tablets the first day, two tablets the second day, and one tablet daily on each of the next three days. Tapering off the dose in this manner is effective and avoids overdosage and its symptoms. A child of three to six years may be given four tablets the first day, three the next, two the third, and one on following days. An older child may receive sulfanilamide tablets each day as follows: five-four-three-two-one-one-one. The tablets should be given at regular intervals.

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I do not find any difference if soda is given along with sulfanilamide, so this was discontinued some time ago. The child is never awakened at night nor during sleep for any medication. Rest is still the most important part of his treatment. Clinical experience has shown that a child will recover more rapidly, if not awakened at night for any medication.

Some relief of the ear pain is obtained by having the child lie on his good ear with the sore ear up. Heat in any form will help alleviate some of the pain. Ear drops such as 5 per cent phenol in glycerin, plain glycerin or warm oil of any kind, gives symptomatic relief. These should be used warmed, three or four drops every two hours. A small piece of cotton helps to keep the drops from running out of the ear canal.

A sedative such as phenobarbital, in large doses, should be given at bedtime every night. This allows the patient, his parents and the doctor to enjoy their night's slumber. The mother is instructed to give the sick child, if over one year of age, a large tablet, $1\frac{1}{2}$ grains, of phenobarbital at bedtime. After ten years of this treatment I have not seen a drug rash or signs of overdosage. Sick children with high fever tolerate large doses of any drug.

If the ear condition improves, the medications are given less frequently and are discontinued in three or four days. If the patient becomes worse, physical examination may show a reddened or greyish red drum, with some bulging. The child may also have a high fever, be quite restless, and have pain in his ear, or have no subjective complaints whatsoever. These symptoms have all become exaggerated in the past twenty-four hours. It is now advisable to open the ear drum to allow drainage. It may open spontaneously.

Most general practitioners are now trained sufficiently well so that they can perform paracentesis quickly and efficiently. If they cannot, an experienced otologist should be consulted. It is very important that the child be wrapped or held securely while this operation is performed. It is seldom necessary to use a general anesthetic. The patient is usually more distressed by fighting the anesthetic and the fear of going to sleep, the nausea and vomiting afterwards, than he is by the few seconds of pain associated with opening an ear. I have found a 10 per cent cocaine solution dropped into the ear about ten minutes preceding the paracentesis to be quite effective. This has fewer disadvantages than the general anesthetic. Occasionally, however, it is necessary to put the child to sleep. Ethyl chloride sprayed on a mask is a rapid and easy method to

induce sleep. There is no odor or distaste as with ether.

Once the ear begins to discharge, all ear medication is discontinued. Changing the cotton in the ear frequently is usually sufficient to absorb the exudate. This keeps the ear canal clean. Vaseline applied to the external ear prevents the cotton from sticking and also the pus from irritating the skin. It is advisable at this stage to avoid all meddlesome ear manipulations. If the child is clinically improving, happy and in no pain, and his ear is draining, why disturb him with local treatment? Nature should be allowed her own way unless some complication occurs. It is not necessary to touch the ear again, if the discharge gradually diminishes and the child feels well, whether it takes a day or weeks. Leave well enough alone. In some cases, where the pus is thick, it may be necessary to irrigate the ear two or three times daily with salt or boric acid solution.

The type of discharge often indicates the organisms present. This is distinctly a laboratory problem. From a clinical standpoint, it makes little difference as far as the above treatment is concerned. Since we have had sulfanilamide, it is generally agreed by many pediatricians that it is quite effective in most types of ear infection. Sulfanilamide treatment decreases the duration of the discharge by one-half to one-fourth, as compared with the customary treatment. This method deserves a thorough trial before one discontinues or discourages its use.

I have found it necessary in some cases to give several courses of this drug. If pain or temperature recurs due to inadequate drainage, or complications develop, as infection of the opposite ear, swollen glands of sinus infection, sulfanilamide therapy is repeated. Another course of four-three-two-one-one-one is given. It is seldom necessary to prescribe more than twelve tablets. With this small dose, toxic symptoms are avoided. Sulfapyridine seems to be more effective in some of the cases that do not respond readily to sulfanilamide. I have not seen cyanosis, rashes or other signs of toxicity since using this graduated form of therapy. When all of the tablets have been used, the mother must call the physician, as our state laws do not allow a refill of the sulfanilamide prescription. In this way one can keep close contact with the patient.

Usually, if the patient has not improved in the first forty-eight hours, it means some complication has developed, the original infection is worse, or sulfanilamide is not effective against that particular organism. Occasionally so-called "masked symp-

toms" will occur in patients treated with sulfanilamide, the temperature will drop, the patient will feel better, and yet the ears will show more inflammation or bulging, or the mastoid be more tender and swollen. He will apparently be on the road to recovery when suddenly there will be a flare-up of all symptoms. In these cases I have found that either sulfanilamide was not started early enough in the course of the infection or was given in insufficient amounts, or the tapering off process was not continued long enough. This should not be a contraindication to its use, as the patient would still be less toxic and in better condition than if he had not received sulfanilamide, even though he may eventually need a mastoid operation. Deep roentgen therapy for the acute ear and mastoiditis is often very effective.

If the pain recurs, the temperature flares up and the discharge suddenly decreases, indicating some obstruction, it may be necessary to make a wider opening or reopen the drum. This is a very important step, as it is in this stage that mastoid symptoms begin to manifest themselves.

In the past two years, in my private practice, since sulfanilamide has been available, I have not had a single case that I felt needed surgical treatment of the mastoid. These mastoids were often red, tender, swollen and painful. Occasionally the ears were pushed forward by the swelling. There are undoubtedly cases that will need a mastoid operation, despite sulfanilamide. We should be much more conservative about mastoid surgery if we use sulfanilamide prudently and keep the ear draining. It was formerly believed that, if an ear drained more than two weeks, an operation was indicated. This theory is not generally accepted at present as most physicians can quote cases from their experience where ears have drained for weeks and months with eventual excellent results.

SUMMARY

Treatment of ear infections is a problem for those who assume the responsibility of treating children.

1. Many ear infections will be prevented by early use of nose drops that shrink swollen tissues and by sulfanilamide in treatment of upper respiratory infections.

2. A painful, bulging ear drum in a child with fever that does not subside, should be opened, if there is no response to treatment within twenty-four hours.

3. Sulfanilamide is advisable and effective when given in graduated doses which become smaller each

day. Several courses may be necessary if complications arise.

4. Ear discharge subsides in one-half to one-third the average time when sulfanilamide is used.

5. Mastoiditis is a less frequent complication. When it occurs, medical treatment will usually be effective in most cases, if drainage is maintained through the ear and sulfanilamide is used as directed.

6. Repeated ear infections may be avoided by removal of diseased tonsils and adenoids, treatment of sinus infections and of underlying nasal allergy which is so frequently associated with so-called chronic sinus infections.

PROBLEMS IN INDUSTRIAL MEDICINE

SOME SOCIAL AND ECONOMIC ASPECTS*

H. L. BLOSSER, M.D.

PORTLAND, ORE.

Of the various problems not strictly medical in character which face the profession today, none has met with such lack of uniform policy and interest as that of industrial medicine. This differs from ordinary medical practice because of the interposition of a third party between the patient and physician. This third party has a direct interest in the doctor-patient relationship because he is responsible for the remuneration of both; on the one hand, for the payment of compensation, and on the other hand, for the payment of professional services.

The social and economic problems of industrial medicine may be roughly separated into five divisions: the problems of (1) the workman, (2) the employer, (3) the medical profession, (4) the insurance carrier, either state or private, (5) the public.

It is the purpose of this paper to show that the medical profession must be directly concerned with the whole problem of industrial relationships, even though some of them at first sight would seem to concern it only remotely.

PROBLEMS OF THE WORKMAN

1. *Inadequate coverage for industrial illness as distinguished from industrial accident.* Beginning with lead poisoning, which has long been recognized as a direct industrial illness, some legislation has been directed toward protection of the workman from illness since 1883. As would be expected, laws and regulations concerning industrial illness are more complete in the areas where chemical and manufacturing industries predominate, but only twenty-four states have such laws at the present time.

* Read before a Meeting of Multnomah County Medical Society, Portland, Ore., Oct. 4, 1939.

Oregon is inadequately provided with a means of defining industrial illness and providing compensation therefor. It was not the purpose of the creators of the present industrial act to include industrial illness. The present law provides compensation for "accidents sustained through violent and external means, arising out of and in the course of employment." The Oregon Supreme Court has held that poison oak dermatitis is an industrial accident and, therefore, compensable; and this, along with certain other rulings, has resulted in altering the situation so that an accident is not necessarily what the industrial act declares, but is what the Supreme Court interprets the act as declaring.

Several attempts have been made in Oregon to include industrial illness under the compensation act, and the administrators of the act feel that this should be done. The chief obstacle in recent legislative attempts to do this has been the insistence of labor that final decisions on compensation and disability shall remain with a lay-jury as the accident controversies now remain; and the employer group, rather than to submit to this notoriously inefficient procedure, has succeeded in defeating the industrial illness measure in the legislature.

Washington is much more adequately covered for industrial illness than Oregon by its act of 1937, which pays compensation for anthrax, lead poisoning (and other heavy metals), benzol, tetrachloromethane, and other chemical substances, carbon monoxide poisoning, bursitis, industrial dermatitis, silicosis, and many other diseases, all of which are carefully defined.

2. *Insufficient compensation for time loss from accident.* Many workmen engaged in hazardous or even nonhazardous occupations often find themselves, through no fault of their own, suddenly reduced to approximately one-half of their earnings by reason of an accident. This, in many instances, reduces his income to a point of bare subsistence. The compensation rate in Oregon is computed as shown in the table below:

	Per cent of wages	Max. per mo.	Min. per mo.
Workman, single.....	40	\$55	\$30 or the wage.
Workman and wife.....	48	65	40 " "
Workman, wife, and one child.....	53	73	
W, W, and 2.....	58	81	
W, W, and 3.....	63	89	
W, W, and 4.....	66 $\frac{2}{3}$	97	

3. *Insufficient compensation for permanent partial disability.* In Oregon, a man receives \$2400 for loss by amputation of his arm above the elbow. In Washington, he receives \$2280. From that time on he is doomed to light work and will be often unemployable. He will lose thousands of dollars in earnings and may even eventually become dependent upon society. If this \$2400 were paid at the rate of \$50 monthly, it would last for only forty-eight months. What is to become of him after that time? It is true that many men with such a disability eventually rehabilitate themselves and find useful, steady employment, but it is equally true that some never do. At the present time, there is no provision for partial disability payments after the specified sum has been paid out and there should be some method whereby these disabled workmen could obtain some permanent monthly payment for life or during periods of unemployment and need, due to their reduced earning power. If some of the other financial problems could be adjusted, legislation to correct this could be passed and the burden for industrial derelicts placed where it belongs, on industry.

4. *Industrial safety.* Publication of the Oregon Logging Code in 1937 and the inspection carried out by the State Industrial Accident and Labor Commissions in this and other industries has produced great improvement. There is room for further progress and the work must be pushed in an efficient manner. The time to treat an accident is before it happens, and industrial safety is still too widely neglected.

5. *Adequate protection of the workman's right of free choice of a physician.* This right has been subjected to criticism by employers and insurance companies, and contracts are habitually being made which deny the workman any choice. While it is by no means a fact that the patient is always the most competent judge of the capability of a physician, it is equally true that an arbitrary hospital contract does not furnish the most efficient care. The patient often feels that he is being discriminated against and that the "company physician" will favor the employer at the workman's expense. It is one of the most important principles of the medical profession that the patient be allowed free choice of physician.

6. *Irresponsible employers.* Another problem which the worker faces is that of the so-called "jippo" logging concerns and other irresponsible employers who hire labor and make no provision for medical care or compensation. If injury results,

they inform the workman that they have no insurance and no money with which to pay bills, and for him to sue, if he thinks he can collect. This leaves the man responsible for his own expenses, often disabled and obviously unable to compensate either the hospital or the physician, with the result that all three suffer for the irresponsibility of a dishonest employer. It may even extend further and result in the workman becoming dependent on society so that the employer could save the amount required for compensation costs. The laws controlling this should be strengthened so that this cannot take place.

7. *Inadequate coverage rendered by unscrupulous insurance companies* who obstruct, as far as possible, the attempts of an injured man to secure compensation.

PROBLEMS OF THE EMPLOYER

These are largely financial, and as such are beyond the scope of this paper. They consist of the rising cost of protection, the reasons for which are discussed later. These costs have doubled in Oregon in the past ten years, and if they continue to rise, there is a grave possibility that it may lead to the break-down of the state compensation systems.

PROBLEMS OF MEDICAL PROFESSION

1. *Securing adequate income for professional services rendered.* Fees have often been arbitrarily allotted without consulting the doctors to whom they were paid. The physician has as much right to proper return for his services as any other person, and it is his right to insist on protection of the funds of the commission by businesslike administration.

2. *Reasonable protection of private practice against contract agencies.* Contracts, particularly those entered into by lay-owned hospital associations, are secured by unethical competitive methods which the private physician cannot and will not imitate. These associations employ physicians at nominal salaries and then contract many times the proper amount of work for them to do. These associations are not in the best interests of the medical profession, and this type of practice must be stopped. So far, only partial steps have been taken, and there are still many physicians who are working for lay-hospital associations. Many other "ethical" physicians, i.e., members of the American Medical Association and component societies, by serving as consultants, give them an air of respectability, serve as one of their talking points in the solicitation of contracts and make their continued existence possible. The whole system of contracts for medical services must be revised.

3. *A more adequate understanding of disability estimation by the profession and some means of standardization thereof.* The amount of time loss a workman should have for an injury and the amount of permanent disability he has sustained are very poorly understood by the profession. While there must necessarily be a variance of opinion in such a complicated field, the inadequate handling of disability estimation has been due to apathy and lack of opinion rather than simple variance. The medical profession owes it to the accident commissions and insurance companies to familiarize themselves with the fundamentals involved. The present lack of agreement between physicians gives rise to difficulty in settling cases and to unnecessary litigation. It is during litigation especially that the difference of opinion between doctors becomes so glaringly apparent. This forces the courts to make their own interpretations and is responsible for charges of dishonesty and the opinion that a physician can be secured to testify to anything if the price is right. It behooves the profession to scrutinize this deficiency and to go into the matter carefully, to be able to present medical cases logically and in a scientific manner in court or arbitration proceedings.

PROBLEMS OF THE INSURANCE CARRIER

The following must necessarily apply largely to the State Industrial Accident Commission of Oregon, because this insurance represents approximately 90 per cent of the industrial insurance coverage of the state. The history of compensation is not in order here, nor is a detailed comparison of other methods of providing compensation for accidents suffered in the course of employment. Suffice it to say that there are four methods of insuring the workman.

1. *Self-coverage.* In this method, the employer chooses to take the responsibility himself, paying out to no one and paying medical expenses and compensation out of his own pocket, if and when accidents occur to his workmen. If this method is permitted, it should be required that he be adequately bonded.

2. *Private insurance.* In this, an insurance company undertakes, for a stated consideration, to cover the risks pertaining to a given industrial operation and assumes all payments to those injured, for time loss, medical services, hospitalization, and permanent disability.

3. *Some form of state or government commission* which assesses the employers coming under its coverage a given amount, thus creating a fund from which expenses and compensation payments

are made. This is essentially a nonprofit organization, subject to legislative control, and the assessments to the employers can be so adjudicated as to meet the expenses.

4. *Recovery at common law.* This is the oldest method of workman protection, and it is this which our various state industrial bodies were created to replace. It is an unsatisfactory means of coverage in most instances, because it depends for its manner of settlement on the skill of opposing attorneys to present a case to thirteen people who know very little about what they are being asked to decide, leaving too much to chance and too little to the real merits of the case.

In settling industrial disputes at common law there are many disadvantages to the workman, physician and employer. Among the disadvantages to the workman there are the oft-interposed defenses of contributory negligence of the workman himself, of a fellow-workman or of a third party to divide the responsibility so that recovery could be made from neither; by the "freeze out" method, by which the case could be delayed and appealed by an unscrupulous employer until the capacity of the workman to continue the case was exhausted. Added to this is the dissatisfaction of the workman when small awards are made by a hostile jury, and the dissatisfaction of the employer when large awards are made by a sympathetic jury. Furthermore, many cases have been, in the past, lost by the legal conception of "assumption of risk," whereby a workman engaged in a hazardous occupation was understood to accept these hazards and, therefore, to be unable to recover in case of accident.

The physician was likewise placed in a very unsatisfactory position because, if no recovery was made, the workman either could not or would not assume responsibility for payment. In other instances, the workman would take the settlement and spend it, letting the doctor go unpaid.

Returning to the accident commission principle, let us consider the Oregon State Industrial Accident Commission. This originated in 1913,² was placed on a working basis in 1914, and has been in operation for twenty-five years. These years have seen many changes in the attitude of labor and of the American people which have been brought about by the great financial depression, through which the country has passed and have in part been fostered by a paternalistic government. Formerly, there was a high sense of self-reliance which seems to have been converted, in a considerable proportion of the

population, into a feeling of dependence on some government controlled institution, and a "the world owes me a living" attitude. The period has been characterized by the great problem of unemployment, by work relief and other schemes to relieve the pressing financial problems of the completely or partially unemployed. Unfortunately, it has also been characterized by a widespread demand for government pensions of the "thirty dollars every Thursday" type.

The original purpose of the SIAC was to compensate a workman for "personal injury by accident arising out of and in the course of his employment caused by violent or external means." It provided payments for temporary total disability, permanent partial disability, permanent total disability and death. It based the amount of compensation on the marital status and number of dependents. The rise of unemployment and subsequent acquisitive attitude of the public has resulted in new problems for the commission.

These problems are analyzed at this time under six headings.

1. *The purpose of the industrial act is to compensate a workman for time loss suffered by reason of accident.* It was believed that the person most likely to know when an injured workman was ready to return to work was the physician who cared for him. Consequently, forms were sent out on which medical reports could be rendered and permanent partial disability estimated if it existed. However, with the coming of the depression and widespread unemployment, it became increasingly difficult for the doctor to recommend closure because of the protests of the workman that he was not ready to go to work. This resulted in carrying of cases long after objective signs had disappeared. In spite of the inadequacy of 40 per cent of a man's wages, as discussed above, it is quite evident that this might well be more than 100 per cent of the total wages if out of employment, and it might be as much or more than the man was making if only sporadically employed.

This, with other factors, resulted in increasing time loss in the average case from \$44 per case in 1928 to \$76 per case in 1938, an increase of 73 per cent. It has resulted in appeals by the score, in rehearings, law suits and threats of law suits, with the intrusion into the picture of the attorney, with lay juries deciding the termination of time loss and the amount of disability rather than the physician. In any legal controversy on permanent disability, all that is necessary for an unscrupulous attorney

2. Washington Commission was established in 1911; Idaho Commission in 1917.

to do is to demand 100 per cent of the loss of function of an arm or leg, perhaps on purely subjective symptoms, or perhaps supported by a professional medical testifier. The commission is then on the defensive to disprove this, while the natural inclination of the jury is usually to favor the workman, on the ground that the commissions and insurance companies are well provided with money. This practice results in robbery of a fund set up to provide legitimate compensation.

Much of this is due to the reluctance of the physician to terminate time loss as long as the patient professes inability to work, lest he antagonize the patient and perhaps his family and those whom he influences. This has necessitated the setting up of an expensive system of medical examination to assist the commission in passing on the ability of a workman to work. This could be minimized by careful attention of the individual physician to the estimation of disability and the rendering of competent reports. There is at present too much tendency for the physician to shift the responsibility to the commission. It is not implied that the physician should be a watchdog for the commission, but merely that he render comprehensive, intelligent reports. As it is, closure is often determined solely by the vigor with which the claimant resists closure, and not by the actual merits of the case. This is especially applicable in cases with a high degree of subjectivity as back sprains, sacroiliac strains and similar conditions.

2. *Demands for "settlement" at the termination of the period of Temporary Total Disability.* Many workmen feel that when they are ready to return to work they should have a "settlement," regardless of the severity of the injury or the completeness of the recovery. The purpose of the partial permanent disability award was to compensate for permanent loss of a part or function of a part, and to this end a comprehensive schedule was laid down, specifying the sum to be awarded for the loss of an arm, leg, eye, etc. It soon became apparent that many injuries, such as back sprains and head injuries, would not fit this schedule. These must, at present, be rated in terms of an arm or a leg.

One of the major problems of the commission is to get physicians to agree even approximately on the extent of PPD in the so-called "nonscheduled" injuries. The estimation of disability is the physician's responsibility and should not be delegated to nonmedical juries and nonmedical accident boards. In case of a true inability to decide the question, as in some special field, a physician should ask for

consultation. If the workman is dissatisfied with the rating, he should seek independent medical opinion and the matter should then be submitted to arbitration by these physicians and recommendation made to the commission. This would keep both the matter of time loss and disability on a scientific instead of a sentimental basis. The present system results in scheduled injuries being settled without argument because they are carefully defined, while partial injuries involving the same member are settled for a badly disproportionate sum with the workman often subsequently making a practically complete recovery.

3. *Theory of aggravation and lowered resistance.* This is one of the most vexing and most expensive problems of the commission. The Supreme Court of Oregon held several years ago³ that a death resulting from an admitted fatal disease was compensable, if it could be shown that the resistance of the decedent had become lowered by reason of accident and, if the workman's life had been shortened by only one day, the beneficiary was entitled to complete fatal award. Furthermore, the responsibility for deciding this rests with a jury if the case is appealed. Under this ruling, the commission has paid thousands of dollars of its money for cancer, tuberculosis, Bright's disease, arthritis, arteriosclerosis and many other diseases which were alleged to have been aggravated by accident. In case of fatal termination it has frequently not even been reported until the patient had died, when it may occur to some member of the family that a blow which is alleged to have occurred several months prior, certainly was the cause of the whole illness and will then find some attorney and perhaps a physician who will support the contention.

It is as unreasonable to expect an accident commission to be wholly responsible for a fatal disease aggravated by an accident or, for that matter a nonfatal disease, as it would be to expect the physician to be responsible for it. There has at times been every reason to believe that in certain of these cases employment was deliberately sought with the purpose of getting in on a defenseless accident commission, when other insurance was not available. If this practice is pursued too far, it will eventually result in a demand from employers for complete examination of every employee and will result in the exclusion of many men now able to work, but who, by reason of some disease or previous accident, present a slightly greater likelihood of reinjury or illness. It is, even now, not uncommon for cer-

3. *Elford vs. State Industrial Accident Commission*, 141 Oregon 284.

tain employers to refuse to reemploy a man injured in their own plant because of the possibility of reinjury. This forces the workman to seek other employment and frequently, in the meantime, he expects to be carried on total time loss.

4. *Problem of the aged.* There are many people carried by various industrial compensation boards every year, whose chief problem is old age. Some trivial injury has served to put them just over the border of employability and they were fortunate enough to have employment at the time of this injury, thereby coming under the provisions of the act. While the aged obviously must be cared for, it is not incumbent on industrial boards to be the agency through which this care is given. Society must provide some form of old age relief for those who have been unable to save enough on which to retire, when their ability to work is impaired by the infirmities of age. This burden is a general social problem, and should not be placed on one division of society alone.

5. *The professional racketeer.* These are pseudo-workmen who manage to secure employment long enough to affect an injury and then remain on industrial compensation. Records of industrial boards reveal whole families of industrial relievers who point with pride to some place which aches and defy any medical examiner to prove otherwise. Records of the Oregon Commission reveal individuals with as high as forty-five claims for compensation. Many find the accident commission a convenient source of income for the winter. Investigations of some of these cases reveal the fact that they have moved to the Northwest from other states after they had exhausted their racket there.

6. *The unemployed.* These are people in periodic employment who are legitimately injured while working, but on recovery find their jobs are gone and try to prolong compensation. This is especially common among the seasonal workers, of whom the orchard industry is an excellent example.

PROBLEM OF THE PUBLIC

The recent social upheaval has focused attention of the public on many social problems of far-reaching nature, of which industrial relationships is only one. The chief interest of the public is financial, and one of concern lest various industrial derelicts be placed on tax-sponsored forms of relief rather than on industry, where they belong. There are many other ramifications, but they cannot be elaborated further in an article of this scope.

SUGGESTED IMPROVEMENTS

What are the remedies for the various problems outlined above, and how can the medical profession help in bettering the situation? Many are of a social nature, and better times will solve them automatically. The social reforms which are in the making will solve two of them, by rendering adequate aid to the aged and the unemployed and in assisting people partially disabled by nonindustrial diseases.

Revision of existing acts by the legislature, correcting defects and defining provisions of the act more sharply so that there will be less opportunity for litigation is essential. Racketeers must be eliminated by prosecution when the law has been infringed upon. A flat fee for attorneys, rather than a percentage of the increase in compensation, would render industrial cases less attractive to the racketeering type of attorney and would be in the same spirit as the present flat fee for medical services.

Another thing which will result in improvement is the eventual natural revulsion of the public against continued compensational rackets. Eventually the industrial racketeer will fall into as much disrepute as the racketeer who attempts to obtain compensation from "railroad spine," malingered dislocations, breach of promise and alienation of affection. The profession can be of great assistance by insisting that it alone has the knowledge to evaluate industrial disabilities and fix time loss, and by training itself so that this insistence be actually true. The future of compensation boards is indeed dark, if the many leaks referred to above are permitted to continue. So far, solvency of the funds has been reasonably well maintained by continued raising of employers' rates. However, there is already widespread dissatisfaction at the continued rise, and the cost is becoming practically prohibitive to some industries. Already some have rebelled and chosen other forms of coverage and, unless something can be done, the very existence of state compensation will be endangered.

If, on the other hand, these practices can be stopped, it will be possible to increase the amount paid workmen with definite permanent disability, to lower rates to the employer, and at the same time the physician will find that it will be possible to do away with the reduced fee schedule, under which he has been working. A great responsibility rests on the medical profession, one which calls for a large amount of that quality known as intellectual honesty.

STATE SECTIONS

OREGON

SIXTY-SIXTH ANNUAL MEETING, EUGENE, SEPTEMBER 4-7

ALUMNI ASSOCIATION MEETING

Postgraduate session, University of Oregon Medical School Alumni Association will be held at Portland, May 1-3.

In Portland and nearby towns there are 300 alumni members. Seventy of these have already paid their dues and registration, \$5, \$2 for dues and \$3 for registration. We should have at least 100 registered in this group. Please send your check of \$5 to Dr. Wilbur Bolton, Medical Arts Bldg., now, if you have not already paid. If you have your registration card you have paid, otherwise not. Your support is earnestly solicited and from the program below you can well see that we are trying to give you your money's worth. We would like to make this our best meeting and set an example for the future. This is to be considered as part of the State Medical Society Postgraduate Education Program.

THOMAS D. ROBERTSON, M.D.,
President

PROGRAM

Wednesday, May 1

- 8:00-9:00 a.m.—Registration, Multnomah County Hospital, H. R. Cliff's Office.
9:00-11:00 a.m.—Model Clinical Pathological Conference
W. C. Hunter and Staff
11:00-12:00 Noon—Functions of Crime Detection
Laboratory Joseph Beeman
OLD HEATHMAN HOTEL
12:30-1:30 p.m.—Round Table Luncheon. Diagnosis and
Management of Ectopic Pregnancy.....F. H. Falls
MEDICAL DENTAL BUILDING AUDITORIUM
2:00-3:30 p.m.—Present Status of Sulfanilamide and
Similar Compounds.....E. G. Bannick
3:30-5:00 p.m.—Management of Obstetric Hemorrhages,
F. H. Falls
6:30 p.m.—Class Reunion Dinners.....Old Heathman Hotel
Old Heathman Hotel

Thursday, May 2

- Registrations are to be made for the clinic desired in advance or at time of registration.
9:00-10:30 a.m.—Operative clinics, Gynecologic and three General (2 cases each). The first at 9:00 a.m. and second at 10:30 a.m.
10:00-12:00 noon—Operative and dry clinic at State Tuberculosis Hospital.....R. C. Matson
9:00-12:00 noon—Roentgen diagnostic clinic,
Drs. Palmer, Reese and Woolley
OLD HEATHMAN HOTEL
12:30-1:30 p.m.—Round Table Luncheon. High Temperatures in Infancy and Childhood.....Harry Dietrich
1:00 p.m.—Luncheon for Visiting and Local Women,
University Club
MEDICAL DENTAL BUILDING AUDITORIUM
2:00-3:30 p.m.—Treatment of Nephritis.....E. G. Bannick
3:30-5:00 p.m.—Abdominal Pain in Infancy and Childhood Harry Dietrich
8:00 p.m.—Early Diagnosis of Carcinoma of the Cervix Uteri.....F. H. Falls

Friday, May 3

- 9:00-10:00 a.m.—Diabetes. Consideration of Protamine Insulin, management of the surgical diabetic and management of diabetic coma.....I. A. Manville
10:00-11:00 a.m.—Allergy. With special attention to diagnosis and treatment of hay fever and asthma,
R. L. Benson
11:00-12:00 noon—Peripheral vascular disease. Diagnosis and Treatment.....W. K. Livingston
OLD HEATHMAN HOTEL
12:30-1:30 p.m.—Round Table Luncheon. Hypertension,
E. G. Bannick
MEDICAL DENTAL BUILDING AUDITORIUM
2:00-3:30 p.m.—Thymic Death, A Medical Waste Basket,
Harry Dietrich
3:30-5:00 p.m.—Business Meeting. Officers' Reports. Election of Officers.
MULTNOMAH HOTEL
5:30-6:30 p.m.—Camel Club.
6:30 p.m.—Annual Alumni Banquet for all Members of the Medical Profession and their Ladies. Dance in Banquet Hall following Banquet.

ORGANIZATION ACTIVITIES

The Council of Oregon State Medical Society met in Portland March 9 at an evening session. The Executive Committee met during the afternoon preceding the Council meeting. A number of important items were discussed during the total elapsed time of eight hours for both meetings.

One of the major actions was final approval of the pamphlet drawn up by the Bureau of Medical Economics, entitled "Medical and Related Services on a Budget Plan for Employed Groups in Oregon." This pamphlet contains information for employers and employees and is available through the Medical Service Bureaus of Oregon which have been approved by and become affiliated with the Bureau of Medical Economics of Oregon State Medical Society.

These pamphlets are primarily designed for the use of the local bureaus in presenting their plans of medical service to employers and committees representing employees. The pamphlets are available to the local bureaus on the actual cost basis of nine cents each.

Physicians are requested to study the pamphlet carefully and lend their cooperation in carrying out the program of the State Society in the following ways:

1. By explaining the program to employers and employees when they ask for information.
2. By discussing the program with the editors of local newspapers. This can best be done by his personal physician.
3. By agreeing to render service to subscribers of approved local medical service bureaus when these subscribers are away from their home communities. Sometime ago, a communication was sent setting forth the conditions and fee schedule governing such services and a form to be returned indicating willingness to cooperate.

To further publicize the work being done by the Bureau of Medical Economics for its affiliated Medical Service Bureaus, each newspaper editor in the state has been sent the statement of "Objectives of the Oregon State Medical

Society" and "Platform of the American Medical Association." Each editor has also received the above mentioned pamphlet entitled "Medical and Related Services on a Budget Plan." It is explained to the editors that in the organization and operation of these approved local medical service bureaus, certain fundamental principles essential to good medical service are observed. No third person is permitted to come between the patient and his physician and dictate less extensive diagnosis and treatment than the physician believes is in the best interests of the patient. Moreover, the patient retains his right to choose his physician from all those who desire to render service under the plan.

Mr. John Caughell reported to the Council on his recent survey of the medical service bureau of the Coast region. He is planning to contact the other medical service bureaus of the state and will submit his findings and recommendations to the Council at a later date. The other topics that were discussed have not been developed to a point where they can be presented intelligently at this time.

The following suggested methods for disseminating information concerning the activities of the Society were approved and the Executive Committee was requested to take steps to put them into effect:

1. Have the secretaries of the component medical societies read excerpts from the Oregon Section of NORTHWEST MEDICINE, paying particular attention to the organization activities and to the objectives of the Society.
2. Have Council members discuss the activities of the Council at regular meetings of their component societies.
3. Have the delegates to the Oregon State Medical Society discuss the problems of postgraduate education and public relations before their component societies.
4. Delegate one or more councilors to appear on the program of the component societies to discuss postgraduate education and public relations.
5. Request secretaries of component societies to read and interpret important news releases from the Society headquarters, these to be read before regular meetings.
6. Bring up for detailed discussion before component societies, the policies and activities of the Oregon State Medical Society as put forth in the paid advertisement which was drawn up by the Committee on Public Relations of the Oregon State Medical Society.
7. Redefine or explain in more detail the policies and activities as condensed in this release from the Committee on Public Relations.
8. Have regular releases to the secretaries of the component societies, such as the recent statement of policy of the Oregon State Medical Society regarding hospital associations and related plans for medical care.
9. Start planning the exhibits for the State Fair and County Fairs.

WOMAN'S AUXILIARY

OREGON MEDICAL MUSEUM

The University of Oregon Medical School Library is now housed in a splendid new modern building, outstanding for beauty and comfort. This has developed through the generosity of Dr. John F. Weeks of Portland, whose gift of \$100,000 for a library building made it possible to secure additional money from the Rockefeller Foundation and WPA and to build a library, an auditorium seating 600 people and a wing with room for laboratories.

In the library are rooms especially arranged to provide physicians, students and other readers with facilities for reading, writing and research. In one of these rooms, which is furnished in club fashion with a rug, easy chairs and

writing desks, are shelved the library collection of historical medical books valuable for age or content. Here also are glass exhibit cases for the display of books and equipment of historic interest.

As in other fields of endeavor, it is important that the student of medicine gain perspective and insight through a knowledge of the historical background of his subject. Although this medical library, in common with many others, has scant funds to spend on historical material, this does not make it impossible to have an interesting and instructive historical collection. Often the museum items are stored in cellar or garret and, did the owner know of their usability, he or his heirs would be glad to give them to the institution desiring them, where they could be preserved for posterity.

It seems highly likely that Oregon homes contain some interesting medical books written before 1850 or some examples of equipment used in pioneer days. To the end that they may be located and preserved, the undersigned committee has been appointed in the Woman's Auxiliary to Oregon State Medical Society. We ask that you help by bringing this matter to the attention of the physicians and auxiliary members in your district and by letting us know of the results. Your findings will be much appreciated and material made available to the library will be housed carefully and will give aid to many people.

Often, when owners of valuable books or epoch material pass away, these various articles are scattered or destroyed. We are eager for saddle bags, medical books, textbooks, pictures, photographs, instruments, old correspondence, newspaper clippings and anything that may be of historical value.

Textbooks in use when the medical school was opened in 1887, books from the Whitman Collection of 1836 and numbers of the Oregon Medical and Surgical Reporter, published at Willamette University Medical School, 1869-1871, would be especially appreciated. If you, who have or know of such material, will kindly contact this committee, we will make all arrangements for securing the same.

It is planned that each gift will be accompanied by a descriptive card giving the name of donor and other pertinent facts. All gifts will be carefully safeguarded and a central card index will be maintained. Please assist us to collect material for the making of a valuable Oregon Medical Museum, for which there is ample display room in our new University of Oregon Medical School Library.

MRS. GEORGE E. HENTON

MRS. ROY A. PAYNE

MRS. COURTLAND L. BOOTH, *Chairman*
2444 S. E. Clinton, Portland, Oregon.

AUXILIARY NOTES

Three awards have come to Oregon in the National Hygeia Contest: to Benton County auxiliary, to Lane County and to the Polk-Marion-Yamhill group.

The new auxiliary to the Mid-Columbia Medical Society met on March 15 to decide on projects for the coming year and to appoint committee chairmen. This new organization has added two members to the original number of fifteen.

Lane County Auxiliary, in accordance with its program for the year, is furnishing guest speakers at various community functions. Recently Charles E. Hunt, President of

Oregon State Medical Society, spoke to a group of fifty women in the district.

Under the leadership of Mrs. J. J. Pantan of Salem, the Polk-Marion-Yamhill Auxiliary continues its fine yearly program. At the recent March meeting, thirty-nine members were in attendance; it is expected that the eight guests present will soon become active members.

The name of Dr. John McLoughlin is being mentioned frequently these days by members of Multnomah County Auxiliary. It is planned that the exhibit from Oregon at the national convention in June, will feature Dr. McLoughlin. The Study Club group in Portland intends to devote one session to a review of the interesting life of this physician.

April has been designated as "National Cancer Control" month, and wives of Oregon doctors are appropriately taking part in this campaign.

The committee in charge of collecting material for the Oregon Medical Museum (a part of the new medical library) announces with pride that great progress has been made, and that in one month's time over three hundred valuable books have been secured.

An interesting meeting of the board of the auxiliary to the State Medical Society was held in Portland on March 20 at the Medical-Dental Building. Reports of all officers and committee chairmen were read, and another excellent talk was given by Dr. Hunt of the medical society, who was a luncheon guest.

Have you made your hotel reservation for the 18th Annual Convention of the Women's Auxiliary to the American Medical Association which will be held in New York City, June 10-14? Headquarters are at Hotel Pennsylvania and we are sure you will not want to miss this convention which promises to be an outstanding one. Mail Your Reservation Today to Dr. Peter Irving, Housing Bureau, Room 1036, 233 Broadway, New York City.

DORIS ABELE (Mrs. John F.)
Press and Publicity

STATE COLLEGE OF DENTISTRY

Members of the Oregon State Dental Association have as their objective a state college of dentistry. In advancing arguments for dental education in Oregon becoming a part of the general program of the Board of Higher Education, the dentists ask for the interest and support of physicians and surgeons.

Dentistry as a profession in the United States dates back over a century. Since the establishment of the first dental college on this continent, in Baltimore in the year 1829, there has been a gradual, steady increase not alone in the number of colleges but in the recognized ethical, educational and technical standards of the profession. In the Pacific Northwest dental education is represented by a college with Class A rating which it has maintained throughout the forty years of its existence, the North Pacific Dental College. This is the only dental college west of Minneapolis and north of San Francisco.

Factors Influencing Dental Standards

There are four factors which determine the development and maintenance of professional standards in dentistry which are in a measure comparable to the influencing factors in medicine: first, the dental colleges; second, the fact that dentistry is an independent, competitive profession;

third, the American Dental Association; and fourth, the state boards of dental examiners.

The standards of the dental colleges themselves, providing fundamental training for the dentist, have advanced from year to year, establishing and upholding the increasingly high requirements of modern dentistry. The second factor making for the highest standards in dentistry is the fact that it is an independent and competitive profession which lives and grows through the knowledge and skill of its individual members.

The function of the American Dental Association, and of its component state and local societies, is to offer continued teaching of dentistry and its advances, and to offer through meetings and publication the exchange and discussion of ideas, discoveries, theories and other contributions to the forwarding of the profession. The state boards of dental examiners tend to elevate professional standards in that they maintain certain minimum requirements for licensure and demand that applicants meet such requirements in education, preparation and skill.

Future of Dentistry Involved

In asking that a state school of dentistry be established as a part of the higher education system in Oregon, the dentists of the state are considering the future of dental education in the Northwest. They do this with cognizance of the role they play in public health and the possibility of still greater contributions to be made to the public health.

By accepting dental education as a part of its responsibility, the state would assure the future of dentistry as it already has done in medicine through building up a great medical center in Portland. In putting such a program into operation, two plans present themselves; namely, annexation of the existing North Pacific Dental College, or establishment of a state school of dentistry. Ideally, such a school would be located on the Marquam Hill campus.

Advantages Cited

The dentists call attention to the advantages in coordinating the teaching of the basic sciences which are required subjects in accepted dental colleges, with resultant benefit to both medicine and dentistry. A definite advantage to the dental student is anticipated in his association with an accredited hospital. Such a plan would bring to a dental college affiliated with the existing medical center in Oregon, the recognition already afforded by the state to established schools in law, pharmacy and architecture as well as medicine.

Resolution Adopted

With these various facts in mind, the Executive Council of the Oregon State Dental Association at its meeting in Portland, Sept 15, 1939, unanimously adopted the following resolution:¹

"The legislative committee shall work with the committee appointed by the President, known as the dental college committee, in the preparation of a definite plan to present to the next annual meeting, that they in turn may authorize this committee to present to the next session of the state legislature, together with a request for a suitable sum of money, to establish a dental college as a unit of the department of higher education, or to annex the present dental college."

Members of the committee appointed were Drs. MacBeth A. Milne, Neil Zimmerman, Robert F. Bennett, Henry Cline Fixott, Laurence Rosenthal, O. F. Wherry, J. Bartels, all of Portland; W. B. Proffitt, John Day; J. C. Gray, Al-

¹ Any further information or details will be supplied on request by Dr. F. Hollister, Secretary, Oregon State Dental Association, Selling Bldg., Portland, Ore.

bany; C. Judkins, Hood River; T. A. Montgomery, Marshfield; B. R. Elliott, Medford; L. Schwering and W. B. Lee of Eugene; M. A. Moon, Salem.

The dentists of the state are hoping that members of the medical profession will give this the benefit of their consideration and support, and that they will cooperate in bringing about a consummation of the plan.

STATE BOARD OF HEALTH

Dr. J. O. Dean, Director, Field Consultant Staff, Field Consultant Service on Records, Reports and Administrative Practice of the Conference of State and Provincial Health Authorities of North America and his assistants, Mrs. Henderson and Mr. Kimball, have been in the state for the last two months, making a study of records, reports and administrative practices of local health departments.

On March 18 the State Hygienic Laboratory's Mobile Unit left for Eastern Oregon in search of plague infected rodents.

The Eastern District Oregon Health Officers meeting was held in Pendleton, March 1. Dr. Haldeman of The Dalles discussed tuberculosis control as carried on in Alaska, and Dr. Rich of La Grande discussed local health department responsibility in such a program.

On March 16 Governor Sprague announced the appointment of Roy A. Payne to the State Board of Health to fill the position left open by the resignation of Robert L. Benson.

Samuel D. Allison, Director of the Division of Venereal Disease Control of the State Board of Health, talked to the Umatilla County Medical Society on March 12 on "Modern Methods of Treating Syphilis."

Joyle Dahl, Director of the University of Oregon Medical School Syphilis Clinic, spoke to Central Willamette Valley Medical Society on "The Modern Treatment of Syphilis," at their March 7 meeting.

During the year 1939, 46 per cent more cases of syphilis were reported than any previous year; 1588 cases were reported, the previous high years being 1937 with 1089 and 1938 with 1088 cases. Gonorrhea reporting, on the other hand, dropped from a high of 2297 cases in 1937, to 1711 in 1938, and 1401 in 1939. This decrease of 39 per cent may be attributed to several factors, the most prominent being the introduction of sulfanilamide. Since its introduction, there has probably been an actual decrease of the incidence of gonorrhea, resulting from the sterilizing effect of the drug with its shortening of the period of infectivity. A factor which may be more important than the actual decrease in number of new cases is that, since the introduction of sulfanilamide, many more people suffering from gonorrhea are using drug store, quack or self treatment, and are not presenting themselves to a physician.

Portland City Health Bureau has started an active educational campaign regarding venereal diseases among Portland labor groups. Films are being shown to various groups and representatives of the Health Bureau are present to answer questions that may arise.

Portland City Health Bureau reports that up to closing time for this issue of NORTHWEST MEDICINE there have been 1336 cases of measles reported this year with no deaths. There were 146 cases reported in January, 507 in February and 683 up to March 25.

MEDICAL NOTES

GRANT FOR MEDICAL RESEARCH. Dr. Robert S. Dow, Assistant Professor of Anatomy, has received a grant in the sum of \$2500 from the Dazian Foundation for Medical Research to be used for studies in neurophysiology. This will enable use of the oscillograph given by the Rockefeller Institute. Doctor Dow is continuing his research dealing with the cerebellum which he started while in Brussels and New York.

THE FIFTH ANNUAL SPRING POSTGRADUATE COURSE in Ophthalmology and Otolaryngology was held from April 1 to 6, the program having been arranged by the Oregon Academy of Ophthalmology and Otolaryngology and the University of Oregon Medical School. Two outstanding men in their respective fields were the guest speakers, Dr. Meyer Weiner of St. Louis, Missouri, Professor Clinical Ophthalmology at Washington University School of Medicine, and Dr. Marvin Jones, Professor of Otolaryngology, Postgraduate Department of Columbia University Medical School.

THE POSTGRADUATE SESSION IN MEDICINE given at the Medical School February 26-28 was enthusiastically received by the medical profession of the Northwest. Particular emphasis was placed on diseases of the cardiovascular system. Registration included fifty-four doctors from Washington, Oregon and Idaho.

THE ANNUAL MEETING OF THE MEDICAL LIBRARY ASSOCIATION, an international organization, will be held at the University of Oregon Medical School this year, on June 25-27. Sessions will meet in the new medical library and auditorium. Delegates are expected from all parts of the United States and Canada.

MEDICAL AND NURSING STUDENTS are combining their literary efforts this year in issuing an Annual to be called "Aesclepian"; a joint committee comprised of medical students and nurses is compiling the issue which will be the first of its kind released from the Medical School.

THE BOARD OF HIGHER EDUCATION has approved the recommendation of President Donald Erb of the University of Oregon and Dean R. B. Dillehunt of the Medical School, authorizing utilization of the income from the recent \$250,000 bequest from Mrs. Anna Mildred Williams. The plan provides for establishment of a Kenneth A. J. Mackenzie professorship in surgery, a field in which Dr. Mackenzie was much interested. He was professor of surgery from 1886 to 1920 at the Medical School. The plan also includes a memorial fellowship annually in the sum of \$1,000 to be set aside for premedic students.

TUMOR CLINIC, GOOD SAMARITAN HOSPITAL: Charles H. Manlove, Superintendent, Good Samaritan Hospital, Portland, has announced the institution of a Tumor Clinic which will be held every Monday morning at 10 o'clock at the hospital. Patients will be presented and their cases discussed after it has been worked up by the resident in surgery. It will be the duty of the resident to acquaint himself with the history and physical condition of the patient and to obtain the laboratory roentgenology work necessary for presentation at the clinic.

THE INTERNE SERVICE PLAN in the Medical School has been modified this year in that internships in the hospitals and clinics of the school, effective July 1, will be extended from a one-year to a two-year service, augment-

ing the present program by services in tuberculosis and contagious diseases. In the process of changing over to the new plan, "special" one-year internships were made available in surgery and these vacancies have all been filled. Internship appointments for the coming year are as follows:

Name	School of Graduation
Richard Currin.....	University of Oregon Medical School
Palmer R. Grorud.....	University of Wisconsin
Robert Hayter.....	University of Oregon Medical School
Charles Kaufman.....	University of Oregon Medical School
Robert Marcum.....	University of Oregon Medical School
Waldo Mills.....	University of Oregon Medical School
Max Parrott.....	University of Oregon Medical School
David Sullivan.....	University of Oregon Medical School
Howard Roberts.....	University of Oregon Medical School

Special internships:

Emmanuel Bitar.....	University of Oregon Medical School
Earland E. Hedblom.....	University of Colorado Medical School
John M. Guiss.....	University of Oregon Medical School
George Lage.....	University of Oregon Medical School
Claude Cody.....	University of Texas Medical School
James A. Ferguson.....	University of Michigan Medical School
Theodore T. Lerch.....	Stanford University Medical School
William T. Smith.....	University of Michigan Medical School

THE OREGON ASSOCIATION OF HOSPITALS met February 28 in Portland and the following officers were elected: Wilson B. Coffey, manager of Coffey Memorial hospital, president; William Gahlsdorf, Salem General hospital, vice-president; Grace Phelps, Doernbecher Memorial hospital, secretary-treasurer. New directors Dr. P. J. Bartle, Eugene hospital and clinic; Mrs. Gertrude Mount, Oregon City hospital, and R. W. Nelson, Portland Sanitarium.

H. M. STOLTE, Yamhill County Health Physician, has recently been appointed city health officer for McMinnville.

P. P. CHRISTENSON has given up his practice in Marshfield and will take a new position in the Federal Marine Hospital at Cleveland, Ohio. This is a five-year appointment by the U. S. Public Health Service.

R. P. SHERWIN has taken over the offices in Bandon which were formerly occupied by Edwin Thorstenberg. Dr. Sherwin has been a little hard to follow recently, having formerly been a Washington County physician and several months ago moved to Arizona to enter a hospital service there.

THE "DOCTOR-PATIENT FINANCE SERVICE," inaugurated by the First National Bank of Portland in the fall of 1939, has been extended to all its branch banks throughout the state.

DR. GEORGE S. WHITESIDE, formerly secretary and president of the Multnomah County Medical Society, died in New York January 29. He came to Portland in 1903 after graduating from Harvard University Medical School and moved to Brooklyn about twenty years ago.

SOCIETY MEETINGS

CENTRAL WILLAMETTE MEDICAL SOCIETY

Central Willamette Medical Society met in Corvallis on March 7. Joyle Dahl of Portland spoke on "Modern Diagnosis and Treatment of Syphilis."

COLUMBIA COUNTY MEDICAL SOCIETY

Columbia County Medical Society met at Clatskanie on March 13 to hear an address by M. E. Steinberg of Portland on "The Use of the Flexible Gastroscope in Diagnosis."

LANE COUNTY MEDICAL SOCIETY

The March 15 meeting of Lane County Medical Society was held in Eugene and was addressed by Karl Martzloff of Portland on "Fundamental Considerations in the Technic of Intestinal Anastomosis."

MULTNOMAH COUNTY MEDICAL SOCIETY

The Multnomah County Medical Society met March 6. In response to a request by the Council of Oregon State Medical Society, the secretary read excerpts from the Oregon section of NORTHWEST MEDICINE. It is planned that this will be a regular monthly duty of the secretary with the hope that the membership will become attracted to and familiarize themselves with the material contained in NORTHWEST MEDICINE.

The scientific program was arranged by the Portland Academy of Pediatrics and was in charge of F. W. Patrick. The subject for discussion was, "Recent Developments in Prevention and Treatment of Contagious Diseases of Childhood." Herbert Goldsmith and Carl G. Ashley spoke on "Measles and Smallpox," and S. G. Henricke and L. Howard Smith discussed "Whooping Cough and Diphtheria." During the general discussion all members of the society present had a chance to speak on these subjects.

POLK-YAMHILL-MARION COUNTY MEDICAL SOCIETY

The March meeting of Polk-Yamhill-Marion County Medical Society was addressed by Thomas Montgomery of Portland, whose subject was "Plans of Urethral Surgery and Surgery of the Prostate."

YAMHILL COUNTY MEDICAL SOCIETY

The Yamhill County Medical Society met March 5 in McMinnville and heard an address by J. W. Evans of Portland on "Eneuresis."

PORTLAND ACADEMY OF MEDICINE

Speaker: Dr. Rudolf Schindler. Time: April 25-27, 8:00 p.m. Place: Auditorium, University of Oregon Medical School. Subjects: (1) "Development and Clinical Importance of Gastroscopy." (2) "Chronic Gastritis." (3) "Early Diagnosis and Prognosis of Gastric Carcinoma."

Dr. Rudolf Schindler, guest speaker, was born in Berlin (1888), attended the University of Freiburg (Baden) and the University of Berlin, graduating in medicine from the latter in 1912. His service as an assistant in pathology with Obendorfer at Munich was interrupted by the World War, during which he served as a military surgeon on the Western front. After this he became assistant in internal medicine with Otto Neubauer in Munich and while there began the work for which he is most noted, the perfection of the gastroscope. The rigid type of instrument proving unsatisfactory, he turned toward the perfection of a flexible tube and spent the next nine years bringing it to its present high degree of usefulness. His first book on gastroscopy was written in 1923.

In 1934 Dr. Schindler came to the United States as visiting professor of medicine at University of Chicago and has remained there, where he is now associate professor of medicine. Since arriving in this country he has published the first book on gastroscopy in the English language and to an already long and noteworthy list of publications has added more than a score of papers dealing with gastroscopic diagnosis and gastric pathology.

WASHINGTON

FIFTY-FIRST ANNUAL MEETING, TACOMA, AUGUST 26-28

NATIONAL PHYSICIANS COMMITTEE

WASHINGTON SUBSCRIPTIONS TO FUND

Washington ranks near the top in the number of subscribers according to physician population in each state, is the word received recently by Washington State Medical Association from the National Physician Committee for the Extension of Medical Service. The report shows there were 155 contributors in the state, including a joint contribution from two county medical societies, a magazine, clinics and the remainder from individuals.

According to counties the report shows the following number of subscribers: Clark, 5; Cowlitz, 4; Chelan, 3; Franklin, 1; Grays Harbor, 3; King, 65; Kittitas, 2; Lewis, 2; Okanogan, 1; Pierce, 21; Pend Orielle, 1; Snohomish, 2; Spokane, 26; Stevens, 2; Thurston-Mason Medical Societies; Walla Walla, 4; Wahkiakum, 1; Whatcom, 6; Whitman, 1; Yakima, 4.

Out of 1,757 physicians listed for the State of Washington by the National Physicians Committee, the report shows 155 contributors, while other states of comparative physician population are given as follows: Alabama with 1,830 physicians numbered 60 contributors; Arkansas with 1,583 physicians registered 37; Colorado with 1,586 had 79; District of Columbia with 1,520 had 35 givers; Florida is listed with 43 subscribers out of 1,683 physicians; Kansas with 1,804 had 86 contributors; Louisiana, numbering 1,992 doctors, totaled 31 givers; West Virginia with a physician population of 1,644 numbered 59.

Among the bigger states, California totaled less than 5 per cent in individual contributions, Illinois about 6 per cent, Missouri around 5 per cent, New Jersey less than one-fourth per cent, New York about one-fourth per cent, Pennsylvania, one-half per cent, and Texas and Wisconsin about the same as New Jersey and New York. Out of 410 physicians listed for Hawaii, the report listed only one subscriber. Vermont listed only 5 givers out of 468 physicians.

The state headquarters suggests that, if individuals subscribe to the National Physicians Committee rather than by group or county contributions, Washington will continue to hold its top-ranking position in the entire nation. The National Physicians Committee report, also, that Drs. W. B. Penney, Tacoma; Nathan L. Thompson, Everett, and Raymond L. Zech, Seattle, have accepted membership on the national central committee.

VENEREAL DISEASE CONTROL

Seattle was the first corporate unit in the United States to evolve and put into effect what is now known as the epidemiologic control plan for handling venereal diseases. Its history covers many entanglements of politics, graft, morals and public health, with the interests of public health always advanced, however, as a result.

Before 1910 venereal disease control was negligible. In that year a segregated district under police supervision with health examination of prostitutes was established.

On June 4, four hundred and fifty-seven women worked in 19 brothels. The system seemed a success. A municipal bawdy house was projected and a site actually decided upon. The last inspection report of October 1, however, showed something going wrong, as only two hundred and seventy-six women were occupying fifteen houses. The end-results were that the mayor was recalled and the chief of police sent to the penitentiary.

When, in 1912 medical inspection of food handlers was tightened as regards venereal disease, those thus made jobless demanded free treatment. To care for them, in the spring of 1913 Seattle established the first municipal tax supported exclusive venereal disease clinic in the United States. It functioned indifferently until 1917. Then the Camp Lewis commanding officer put the city "out of bounds" because of too many visiting soldiers contracting venereal diseases.

As a clean-up measure the police raided about ten reported locations of infection, arresting some sixty women. How to hold them was a problem. The maximum jail sentence possible was sixty-three days with possible continuances and appeals while out on bond, permitting the women to continue as disease disseminators.

The mayor called in conference the chief of police, police judge and commissioner of health. After much discussion he said to the commissioner of health, "Mac, did those women have smallpox you could keep them locked up and without bail; now why not include gonorrhea and syphilis as contagious diseases, too, and hold them in quarantine?" So in September, 1917, the epidemiologic method of venereal disease control was put into action in Seattle.

Real excitement then began, lawyers fought, doctors disagreed, the city bacteriologist resigned and an election came, the epidemiologic control of venereal disease being an issue. The mayoralty candidate promising the removal of the commissioner of health was elected. The people by ballot decided that venereal diseases were not dangerous.

When he came into office, however, the mayor saw things from the inside and demanded a more rigid enforcement of venereal disease quarantine. At one time, in 1918, there were two hundred and thirteen women and forty-six of their men, pimps, quarantined in two special venereal hospitals. Seattle was almost clean then, but toes were much stepped upon. For instance, one of the larger churches owned an apartment building which was being used in part as a hawdy house. The clothes of one prostitute bore the laundry mark of a superior court judge. A doctor was sent to the penitentiary, another indicted and his trial continued until after another election. Spicy stories could be told without end.

The war ended, interest lagged, and the lawyer doing the better business in handling those quarantine cases was elected mayor and a man handling a few went to the state supreme court. Only a skeletonized venereal disease control actively continued.

To improve conditions, shortly before election time, the commissioner of health asked the Seattle Urologic Society to formulate a clinic plan and to furnish men to do the work. In 1927 the society's venereal disease clinic had

attracted national attention and was written up in the May 19, 1928, issue of the *Journal of the A. M. A.* In June, 1928, Thomas J. Parran presented a paper concerning the need for public health control of syphilis before the Public Health Section of the A. M. A. The Seattle venereal disease clinic plan was presented as a discussion of his paper. Both were published in the *Journal of the A. M. A.* December 7, 1929.

When the society's clinic began functioning, the records showed 5.9 per cent of Seattle food handlers as having syphilis. The next year 3.8 per cent were found to be infected and ten years after less than 1 per cent. These clinics, now much expanded, still function.

On opening of King County Hospital clinics in 1932, there was included a special syphilis clinic. In 1934 special lectures began to be given the county and Providence hospital nurses on handling of venereal disease. In the February, 1939, issue of *American Journal of Nursing* the University of Washington methods of teaching nurses the handling of venereal diseases were published.

In 1936 the Washington State Department of Health first employed a full time epidemiologist in venereal disease control work. That year marked the time when in Washington venereal patients ceased to be classed as sinners, and their medical terminology could be mentioned in polite society. Syphilis, gonorrhea and various venereal sores henceforth became human ailments and not just retribution for sin.

MEDICAL NOTES

HOSPITAL FUNDS REPORTED. A subcommittee of the House of Representatives has recommended appropriation of \$400,000 for purchase of land at the present site of the Indian Hospital in Tacoma and for a certain amount of construction work. The project has been under consideration for a number of years and it has been expected that the old wooden buildings will be replaced with modern fireproof construction.

HOSPITAL STAFF ELECTS. At a meeting of the staff of the Everett General Hospital February 29, C. B. Jones was named president, E. J. Van Buskirk, vice-president, and John E. Flynn, secretary-treasurer.

PUBLIC HEALTH NURSES STUDY BLINDNESS. Three two-day institutes throughout the state concerning the treatment required for the care, prevention and amelioration of blindness were held for public health nurses in February. Approximately fifty nurses attended each of the meetings which were held under the auspices of the local departments of health and the State Department of Social Security, Division of Blind. The meetings were held in Olympia February 20-21, in Seattle February 23-24, and in Spokane February 27-28.

AUXILIARY SPONSORS PUBLIC RELATIONS. Members of Auxiliary to Kitsap County Medical Society held their annual public relations tea March 14. One hundred thirty-five representatives of various organizations throughout the county were entertained at the meeting which was held in the auditorium of the Bremerton Library. Meeting was addressed by Donald V. Trueblood of Seattle, who spoke on cancer.

LOCATIONS. Wallace C. Shearer has moved to Grand

Coulee from Wilbur. He will retain an office in Wilbur where George Conover, formerly of Wallace, Idaho, will be associated with him. M. A. Altman has joined Harold Hopke of Sedro Woolley for practice.

OBITUARIES

DR. HARRIS HOWARD HAMLIN of Seattle, Wash., died March 19 of a coronary attack, aged 43. He was born in Seattle and received his medical degree from the University of Kansas Medical School in 1929, having previously graduated from Stanford University with a bachelor's degree. He interned in Montreal General Hospital and was resident at Boston City Hospital. He had been in practice since 1932.

DR. CLARENCE L. WHITMIRE of American Lake, Wash., died March 2 of coronary disease, aged 44. He received his medical degree from the University of Illinois College of Medicine, graduating in 1919. He had been in federal service for fourteen years and for six years had been on the staff of the American Lake Hospital.

DR. GEORGE STEPHEN HATCH of Seattle, Wash., died March 16, aged 80. He received his medical degree from the University of Michigan Medical School at Ann Arbor in 1884. He had been retired for a number of years.

SOCIETY MEETINGS

COWLITZ COUNTY MEDICAL SOCIETY

Regular meeting of Cowlitz County Medical Society was held at Hotel Monticello, Longview, March 20. Several new committees were appointed to carry out scientific work as outlined by the State Association.

A. L. Ringle, Cowlitz County health officer gave a most interesting paper on "Diagnosis of Pulmonary Tuberculosis." He especially stressed use of the mantoux test and roentgen ray. A number of roentgenograms were presented demonstrating the findings in early and late stages of pulmonary tuberculosis.

Auxiliary to the Cowlitz County Medical Society held a dinner meeting at the same time. Mrs. W. N. Girling and Mrs. John Barton were hostesses. A book review was given by Mrs. C. J. Sells and Mrs. L. S. Roach gave news items.

KING COUNTY MEDICAL SOCIETY

King County Medical Society held its first monthly meeting March 4 in the Medical & Dental Building, Seattle, at 8:15 p.m., President Jared presiding.

F. L. Ball was elected to membership. Applications were presented of A. Poska, M. R. Waldron and W. W. Wick.

Henry Odland read a paper of "Myotic Infection of the Hands and Feet." The discussion dealt with superficial infections usually designated dermatophytosis, caused by various epidermophytos and trichophytos. He discussed the modern concepts of the disease and described indications for diagnosis.

Samuel Mercer read a paper on "General Manifestations of Arsenical Poisoning." He described the various forms and appearances of poisoning, particularly mentioning cases resulting from use of arsphenamines. He discussed interesting features of chronic poisoning. C. H. Hofrichter and S. T. Parker discussed these papers.

H. J. Davidson read a paper on "A New Anastomosis After Pylorotomy." His method is the use of the portion of duodenum lying in the retroperitoneal space proximal to the crossing of mesenteric vessels. He described details of the operation and outlined resulting advantages.

LEWIS COUNTY MEDICAL SOCIETY

Regular meeting of Lewis County Medical Society was held at Centralia March 11. Sidney M. MacLean of Tacoma, representing the Committee on Cancer Control of the State Association, addressed the meeting. Also representing the State Association were W. B. Penney of Tacoma, president, and Mr. Art Anderson of Seattle, executive secretary. Dr. Penney invited all members to the annual meeting in Tacoma next August and spoke briefly on medical ethics. Two reels of motion picture films were shown on the subjects of herniotomy and loop colostomy.

PIERCE COUNTY MEDICAL SOCIETY

Regular meeting of Pierce County Medical Society was held in the auditorium of the Medical Arts Building, Tacoma, March 12. Mr. Nelson of the National Bank of Tacoma presented plans for a collection service on notes signed by patients for medical service. A communication regarding the National Physicians' Committee for the Extension of Medical Service was read. Resolution was passed to the effect that the Pierce County Medical Society recommend to the City Health Department the need for increasing the percentage of pasteurized milk used in the city.

Scientific portion of the meeting consisted of a panel discussion of cancer which was led by Horace Whitacre. Discussors were H. S. Argue, H. B. Allison, B. D. Harrington, S. F. Herrman, S. M. McLean, and C. P. Larson, all of Tacoma, and C. B. Ward of Seattle.

SNOHOMISH COUNTY MEDICAL SOCIETY

At the regular meeting of Snohomish County Medical Society, held in the library of the Medical and Dental Building, Everett, March 7, a paper was presented by Henry Odland of Seattle, on "Fungus Infections and Contact Dermatitis." Dr. Odland illustrated his paper with lantern slides. The members found the paper very informative and worth while.

The Society voted to make a contribution of \$50 to the National Committee for the Extension of Medical Service. This amount is apart from the contribution of individual members.

SPOKANE COUNTY MEDICAL SOCIETY

Regular meeting of the Spokane County Medical Society was held in the auditorium of the Paulsen Medical and Dental Building March 14. Bylaws were amended to make American citizenship a prerequisite for membership in the Society.

The meeting was addressed by five members of the State Department of Public Health. Speakers and their subjects were: R. H. Fletcher, "The Relation of Public Health to Medical Practice"; Percy F. Guy, "Prenatal Care and the Care of Premature Infants"; Mr. Roy M. Harris, "Sanitary Engineering"; Miss Anna R. Moore, "Public Health Nursing Activities"; and L. A. Dewey, "Points in the Communicable Disease Program."

WALLA WALLA VALLEY MEDICAL SOCIETY

March meeting of the Walla Walla Valley Medical Society was held at the Marcus Whitman Hotel, Walla Walla, Thursday, March 14. Meeting was addressed by Homer P. Rush and E. Merle Taylor of Portland, both discussing phases of hypertension. Dr. Rush presented new concepts of causes of high blood pressure, outlined progression of the disease, and discussed management. Dr. Taylor discussed ophthalmoscopic examination of the fundus and appearance of the retina in various stages of hypertensive disease.

YAKIMA VALLEY MEDICAL SOCIETY

Regular meeting of Yakima Valley Medical Society was held at the Commercial Hotel, Yakima, March 11. Meeting was devoted to diseases of infants and children and was addressed by Jay Durand and Frank Douglass of Seattle. Dr. Durand discussed infant feeding and Dr. Douglass discussed causes and treatment of vomiting.

WOMAN'S AUXILIARY

Seattle, Wash., March 22, 1940

The mid-year board meeting of the State Auxiliary, held in Tacoma February 16, was well attended by representatives of the counties. Delegates were greeted at luncheon by W. B. Penney, President of Washington State Medical Association. H. H. Skinner, Chairman of the Maternal and Child Welfare Committee, spoke on the vital importance of that work, and Dr. Roth of the State Planning Council gave a resume of his investigations in the field of the teaching of hygiene in the schools.

KITSAP COUNTY AUXILIARY in September met at the home of Mrs. J. E. Waddon to plan the year's work, and heard reports of the state convention given by Mrs. John Schutt, Mrs. H. E. Wilson and Mrs. R. A. Benson. In October, at the home of Mrs. Benson, new members were welcomed, and Mrs. Benson spoke on the relationship of the Auxiliary to the community. Mrs. Harold Larson gave a talk on "The Doctor in Current Literature" at the November meeting, and Mrs. Elmer Cornell, President, presided over the business meeting. A dinner dance for Kitsap County Medical and Dental Society members and their wives was the occasion for the December gathering. Dr. Donald T. Trueblood spoke on "Cancer." Mrs. L. S. Roach, State Auxiliary President, spoke briefly regarding our Auxiliary program.

WALLA WALLA COUNTY AUXILIARY elected officers at the February meeting, Mrs. J. W. Ingram being the new president. Rev. Joseph C. Settle reviewed "As We Are" by E. F. Benson, and spoke on the works of Arthur Eddington. Mrs. J. T. Rooks, radio chairman, was in charge of the March meeting, and Richard Clodius, radio announcer, spoke on the history of broadcasting.

GRAYS HARBOR COUNTY AUXILIARY met for dinner February 21 with the County Medical Society, after which Auxiliary members met in a business session. Mrs. A. Skarperud and Mrs. E. L. Calhoun reported on the state midyear board meeting, and Miss Elaine Hesla spoke on "Wagnerian Opera."

KING COUNTY AUXILIARY at its January meeting featured an interesting talk by Senator Pearl Wanamaker on "The Human Side of the Legislature." Mrs. Roach, State

president, addressed the members, stressing the state philanthropic fund which is being inaugurated this year. An informal no-host dinner preceded the annual public relations meeting, which was arranged by Dr. Phyllis Leibly, and to which representatives of local organizations were invited. Members of King County Medical Society were present to answer questions on pertinent subjects.

CLARK COUNTY AUXILIARY discussed current medical events at its March dinner meeting, followed by a short talk by Mrs. L. H. Carpenter, historian. Mrs. J. C. Brouger reviewed an article from *Hygeia*, "The Nation's Health." Plans were made for the Public Relations luncheon to be held in May.

YAKIMA COUNTY AUXILIARY enjoyed Mrs. Willard Rew's review of "Doctors on Horseback" by Flexnor at its February meeting. Mrs. H. S. McGuinness spoke on "Highlights in Hygiene" and Mrs. Kay England on "Cancer." Mrs. D.

F. Bice, president, and Mrs. R. B. Cogan reported on the State Board meeting for the Yakima County March meeting. Mrs. Joe Helton presented the history of medicine in Yakima Valley, illustrated by an exhibit which was arranged by Mrs. H. W. Atwood.

SPOKANE COUNTY AUXILIARY at its February meeting presented Rev. Father James Linden, S.J., regent of the School of Law of Gonzaga University, who gave a patriotic address. Mrs. Carroll Smith reviewed "Town Meeting of the Air." Mrs. V. G. Backman, State Program Chairman, was guest speaker at the March meeting. Dr. Elizabeth White spoke on Y.W.C.A. activities. Cancer Chairman Mrs. Ralph Hanson, who had just returned from the National assembly of the National Society for the Control of Cancer, gave a detailed report of the meeting of that group.

MRS. SOUREN H. TASHIAN,
State Publicity Chairman

IDAHO

FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPTEMBER 11-14

ANNUAL DUES FOR 1940

These are past due and every ethical physician in the state should belong to the Idaho State Medical Association.

In numbers there is strength. A united medical profession can brush away any and all obstacles. It is next to impossible to find any successful physicians who have achieved fame outside the organized profession. Secretaries of component societies will do well to check closely on physicians in their districts and do their best to induce them to join the society at their earliest opportunity.

SPRING POSTGRADUATE LECTURES

The annual spring postgraduate course of lectures sponsored by the Division of Public Health will be held in Idaho in the following cities: Idaho Falls, April 15; Twin Falls, April 16; Boise, April 17; Lewiston, April 19; Coeur d'Alene, April 20.

The lecturers, all from the University of Oregon Medical School, will be as follows: H. C. Stearns, Obstetrics and Gynecology; J. O. Dahl, Syphilis and Dermatology; M. L. Bridgeman, Pediatrics.

INDUSTRIAL HEALTH

G. C. Halley, representative of Idaho State Medical Association at the Annual Congress on Industrial Health, makes the following report:

Many points of interest were developed at the Second Annual Congress on Industrial Health sponsored by the Council on Industrial Health of the A.M.A. at its meeting, in Chicago, January 15 and 16.

Industrial health has a human interest. The medical profession should be the focal guidance, although other agencies are interested. Improvement of industrial and compensation practices has been sought. It was urged that state and county societies select functional committees and these correlate their work with the Council.

Compensation during a period of disability does not solve the problem of an injured workman. He must have his ability to work restored. Vocational rehabilitation should be accomplished through training for some type of work.

Syphilis in industry must be met with a program of case finding, treatment and education. The employee, if in non-infectious state, should be allowed to continue in his work, unless of cardiovascular or neural type, in which placement in safe positions is impossible. Cases should be treated by the family doctor.

Preemployment examinations are desirable. Periodic health examinations in industrial workers are necessary and should be complete to detect industrial diseases and to insure early correction of defects. Safety placement to a suitable job depends on physical evaluation.

MEDICAL NOTES

SPOTTED FEVER VACCINE AVAILABLE. North-central Idaho health unit has received a supply of spotted fever vaccine from the federal public health laboratory at Hamilton, Montana. Max B. McQueen advised that the vaccine should be administered a month before any tick infested area is to be visited. Inoculations should be repeated annually. Incidence of the disease has been increasing in the past ten years, most cases occurring in the Bitterroot section.

INCUBATOR PRESENTED. Contribution of many citizens of Latah County recently purchased a baby incubator for the Gritman Memorial Hospital at Moscow. Funds subscribed in excess of the price of the incubator have gone to purchase other items of equipment for the nursery.

A. A. Towner of Nez Perce is now located at Fort George Wright, Spokane, in the regular army service. His departure leaves an interesting location in Nez Perce; anyone interested should look into the matter.

At the regular meeting of North Idaho Medical Society, February 22, C. O. Armstrong of Moscow led a round table discussion of general medical practice with sidelights

on the life of a doctor and how he can develop for the future.

The University of Oregon Medical School will provide the lecturers for our annual spring graduate course. Names and subjects are not available but the date will probably be the week of April 8. Local and component societies will be advised at an early date.

LOCATIONS. John N. Alley has returned to Idaho and will practice in Lewiston. He formerly practiced in Nez Perce but since 1929 has been at Veterans' Hospital, Medical Lake, Washington. R. A. Goodwin has opened an office in Emmett. He was formerly located in Haley. Joseph R. Numbers, who has been in practice in Boise for twenty-one years, is returning to Weiser. P. E. Newport, formerly associated with A. C. Jones of Boise, has opened an office in Twin Falls.

D. D. McRoberts of Lewiston is going to Boston to study roentgenology during April and May.

Wallace Bond of Boise is located in Twin Falls for the practice of eye, ear, nose and throat. He will be in the office of Lloyd E. Oaks, and on the return of Dr. Oaks they will be associated.

SOCIETY MEETINGS

NORTH IDAHO DISTRICT MEDICAL SOCIETY

Regular meeting of the North Idaho District Medical Society was held at the Lewis-Clark Hotel, Lewiston, February 21. W. O. Clark reported that prizes for best papers read by members in district society meetings are to be awarded by the Idaho State Medical Association. C. O. Armstrong, Moscow, lead a round table discussion on general medical practice.

POCATELLO MEDICAL SOCIETY

Pocatello Medical Society held a meeting at Bannock Hotel, Pocatello, March 7. H. J. Schwartz was elected to membership.

Several members reported on the recent sectional meeting of the American College of Surgeons held in February at Los Angeles. A symposium was held on Sulfanilamide and related drugs. W. L. Olsen read a paper on "Sulfapyridine;" B. C. Eisenberg on "Sulfanilamide," and E. V. Simison on "Neoprontosil."

CORRESPONDENCE

SERODIAGNOSTIC TESTS FOR SYPHILIS

Portland, Ore.
February 26, 1940

To the Editor:

In an editorial in the February, 1940, issue of *NORTHWEST MEDICINE*, the following statement occurs:

"Under the methods of laboratory standardization being sponsored by the United States Public Health Service, there has been a tendency in recent years to increase the sensitivity of the set ups. Thus, many who formerly would have shown a negative or 'mild' positive are now being reported as 4 plus."

This statement is entirely at variance with known facts regarding the purposes of the evaluation studies and with their accomplishments. The United States Public Health Service came into the picture in 1934, when the American Society of Clinical Pathologists requested it to make an evaluation of the various serologic tests performed in the United States. This study proved definitely that several tests described by American serologists were superior to tests described in any country of the world. The tests which were so outstanding were the Engle, Hinton, Kahn, Kline and Kolmer.

The Committee on Evaluation of Serodiagnostic Tests for Syphilis and the United States Public Health Service next offered to evaluate the serologic performance of the various state, municipal and of a limited number of private laboratories. Many laboratories willingly and gladly accepted this offer. The results of this evaluation study showed: (1) many laboratories were doing excellent work; (2) a number of laboratories were doing very mediocre or distinctly poor work; and (3) the success or failure in the performance of any serologic test depended upon the adherence to or deviation from the technic described by the author of that test.

In 1938 there was held at Hot Springs, Arkansas, a conference of laboratory directors and serologists, which was also attended by some of the leading syphilologists of the country. The proceedings of this conference were published

in a bulletin, "The Serodiagnosis of Syphilis," supplement No. 9 to Venereal Disease Information. This conference was primarily concerned with the correct performance of the recognized serologic tests for syphilis. It emphasized the importance of strict adherence to conventional technic. It adopted a recommendation that serologic results be reported as positive, doubtful or negative. It stressed the importance of performing the serologic tests accurately. "It should be the goal of all laboratory workers engaged in the performance of serologic tests for syphilis to protect the welfare of the patient by exerting every effort to prevent the occurrence of false positive or false negative results." (p. 31, Supplement No. 9).

The evaluation studies were continued in 1938 and 1939, and many laboratories are participating in them right now. At no time has sensitivity been increased at the expense of specificity. The goal of each serologist is to report a positive test in every case of syphilis, and a negative test in every other condition. The over sensitive tests which were developed by a few serologists did not get recognition at the Hot Springs Conference.

To those of us who have participated in the evaluation studies they have been most fruitful. We have found that we could agree very closely with the results obtained by the authors of the tests, if we adhered to their technic. If that is "standardization," we most enthusiastically welcome it. Certainly the physician should welcome with equal enthusiasm any laboratory procedure which guarantees the same results on the same specimen obtained in a variety of laboratories.

Adherence to conventional technic may have resulted in some increase in the number of positive reports in a few laboratories; equally true it is that such adherence must have also resulted in fewer "false" positive reports. I cannot speak for other states, but I know definitely that in Oregon the adoption of "standard" technics has not resulted in reporting negative or "mild" positive (what is a mild positive?) cases as four plus. I feel strongly that adherence in

Oregon to conventional technic is improving the serologic work of the laboratories. (See "Approval of Laboratories," *NORTHWEST MEDICINE*, p. 458, Dec., 1939).

The Committee on Evaluation of Serodiagnostic Tests for Syphilis and the United States Public Health Service consider the serologic work of a laboratory satisfactory if it attains a sensitivity rating of not more than 10 per cent below that of the control laboratory, and a specificity rating of not less than 99 per cent. By no stretch of the imagination can anyone conversant with serologic technics find in this standard any incentive for increased sensitivity unless it be accompanied by a much greater increase in specificity.

In closing may I state that I consider the work of the Committee and the United States Public Health Service in the evaluation of the serologic tests for syphilis as one of the greatest contributions to serology and to medicine.

WILLIAM LEVIN, Dr. P. H.
Director of Laboratory

Washington, D. C.
March 4, 1940

To the Editor:

The editorial entitled "Accuracy in the Treatment of Syphilis" which was published in the February, 1940, issue of *NORTHWEST MEDICINE* has been noted with interest. I believe it is particularly timely that you emphasize the need for the treatment of patients with early syphilis by schedule and not by response of the serologic test. This has been the aim of the Cooperative Clinical Group and the utilization of this method by physicians in private practice generally would do much to aid in the control of syphilis from a public health standpoint.

I am somewhat disturbed, however, at the last paragraph of the editorial, in which you intimate that the work of the Committee on Evaluation of Serodiagnostic Tests for Syphilis, sponsored by the Public Health Service, has tended to increase the sensitivity of such serologic tests. While tests of high sensitivity are desirable, it is much more important that the tests be of high specificity. The Serologic Committee has repeatedly emphasized the importance of specificity.

In this connection, I wish to point out the recommendation which was made during the Assembly of Laboratory Directors and Serologists which was held under the sponsorship of the Serologic Committee and the Public Health Service in Hot Springs National Park, Arkansas, in 1938. This Assembly adopted as a satisfactory serologic test for syphilis, one which had a specificity rating of at least 99 per cent and a sensitivity rating not more than 10 per cent lower than the sensitivity rating of the control serologic test as performed by the author-serologists. Thus, only one per cent of false positives is allowed, if a test is to be rated as satisfactory, while the same test may show 10 per cent greater false negative tests than is displayed by the control test and yet be classified as satisfactory. This method of rating serologic tests, while necessarily arbitrary, indicates that the members of the Assembly considered specificity to be approximately ten times more important than sensitivity.

I am pleased to inform you that the Committee on Evaluation of Serodiagnostic Tests for Syphilis and the Public Health Service have accepted the recommendations of the members of the Assembly in rating the performance of serologic tests for syphilis by State laboratories as satisfactory.

R. A. VONDERLEHR
Assistant Surgeon General
Division of Venereal Diseases

Editor's Note: The following statements are taken from *The Serodiagnosis of Syphilis, Supplement No. 9 to Venereal Disease Information*. This is a report of a meeting of laboratory directors and serologists held under the auspices of the Committee on the Evaluation of Serodiagnostic Tests for Syphilis and the U. S. Public Health Service at Hot Springs, Arkansas, October 21-22, 1938.

Page 36, Dr. Stokes: "... that to speak of serologic tests for syphilis as if they were infallible, or even as if they actually had a completely known specificity and sensitivity, is to talk in ignorance of the subject, I feel sure. * * * The great unknown today, as the clinician like myself, the man who is called upon to decide what laboratory results mean to the patient sees it, is the positive serologic test, and not the negative. I have a feeling that the era of serologic dominance of the diagnosis of the disease is not beginning; it is ending."

Page 38, Dr. Sherwood: "We have run probably 2,000 students' serums for Kolmer's and about 1200 for Kahn's. * * * There is occasionally a normal human being who has no symptoms, no personal or family history of syphilis, and denies exposure to syphilis who is serologically positive... his serum will give a flocculation test consistently positive in the higher ratios and positive occasionally down into the zone of diagnostic titer."

Page 39, Dr. Sherwood: "In the case of syphilis the test is not for syphilis but for a lipoidophilic substance which we call reagin."

Page 40, Dr. Lange: "Today quite the opposite trend obtains, namely, to overstress the necessity of a maximum sensitivity, jeopardizing in this way, particularly the specificity."

Page 43, Dr. Eagle: "We are now beginning to realize that they (serodiagnostic tests) are not quite so specific as we thought five years ago."

Page 44, Dr. Kahn: "I believe that the outstanding problem in diagnostic tests for syphilis is not how to increase the sensitivity of antigens, but how far to reduce antigen sensitivity to conform to specificity."

Page 46, Dr. Kolmer: "... the diagnosis of many cases of chronic syphilis * * * is purely a matter of serum diagnosis. * * * serologists must have a keen realization of their tremendous responsibility in rendering the tests as sensitive as is consistent with practical specificity."

Page 129, Dr. Stokes: "There is no escaping the way in which serology soars into an atmosphere of incomprehensibility, full of errors that it cannot check, if it does not come down to the patient every once in a while. There is no escaping the one-footedness of a clinical syphilology which does not have adequate serologic backing. The two need each other."

BOOK REVIEWS

THE THERAPEUTICS OF INTERNAL MEDICINE. Supervising Editor George Blumer, M.A. (Yale), M.D. David P. Smith, Clinical Professor of Medicine, Yale University School of Medicine, etc. Associate Editor Albert J. Sullivan, M.D. Adjunct Clinical Professor of Medicine, George Washington and Georgetown Medical Schools, etc. 844 pp. Vol. II, 969 pp. Two volumes \$10. D. Appleton-Century Co., Inc. New York, London. 1940.

There are thirty-one contributors to these volumes, connected with medical schools and institutions in all parts of the country. Collectively they cover all internal diseases. Volume I considers the underlying principles and special technical procedures of therapeutics. Section 1 is devoted to general therapeutics, including rest, diet, change of environment, spa therapy, principles of radiotherapy and endocrine therapy, specific sera therapy, use of vaccines in prophylaxis and therapy, treatment in psychiatry and many others. Section 2 includes special therapeutic technic, as oral medication, intradermal and hypodermic injections, blood transfusions and spinal punctures. There are two short chapters on rectal medication and paracentesis.

Volume II is concerned with management of infectious

diseases. The first section is devoted to pharmacology of the important groups of drugs and importance underlying their use, including treatment and various forms of poisoning. Section 2 is given over to care of the patient, including the management of convalescence.

It is of utmost importance that, whenever possible, the principle of accurate diagnosis should precede treatment. The physician, to develop therapeutic wisdom, must develop a questioning attitude of mind. The future of therapeutics is unpredictable; even with present day knowledge there is great progress yet to be made. There will be remedies found in the future for endocrine disorders and the deficiency diseases.

J. M. BOWERS

A TEXTBOOK OF LABORATORY DIAGNOSIS. With Clinical Applications for Practitioners and Students. By Edwin E. Osgood, M.A., M.D. Associate Professor of Medicine and Head of The Division of Experimental Medicine, University of Oregon Medical, etc. Third Edition. With twenty-seven Figures in the Text and ten Colored Plates. 676 pp., \$6.00. The Blakiston Company, Philadelphia, 1940.

In the field of laboratory diagnosis there are a number of excellent textbooks, and among them this volume is a leader. The present edition has undergone the thorough and painstaking revision which is necessary every few years to keep a text in this particular subject up to date. For those not acquainted with the organization of the volume, it can be commended as a reference work particularly adapted to student teaching and to the practicing physician.

Half of the book is devoted to the technical laboratory procedures. In the other half, completely separate from the technical portion, is the presentation of disease according to its various anatomic systems, with discussions of clinical findings and laboratory tests that are pertinent. This feature makes it particularly adapted to the intern or practicing physician, in that it will enable him efficiently to plan the laboratory work indicated in any given case and to interpret the results intelligently. Old laboratory friends of this volume will welcome the greatly improved binding which will withstand the frequent usage the book deserves.

C. R. JENSEN

FUNCTIONAL DISORDERS OF THE FOOT. Their Diagnosis and Treatment. By Frank D. Dickson, M.D., F.A.C.S., Orthopedic Surgeon, St. Luke's, Kansas City, etc., and Rex L. Diveley, A.B., M.D., F.A.C.S., Orthopedic Surgeon, St. Luke's, Kansas City, etc. 202 Illustrations, 305 pp., \$5.00. J. B. Lippincott Company, Philadelphia, 1939.

It is stated that the medical profession as a whole has failed to evaluate correctly the seriousness of disabling foot conditions. In general the laity look upon the treatment of such conditions as a province not of the physician but the chiropodist or shoe salesman. This book has been written to meet this situation. After describing evolutionary development of the foot and its anatomy, there is a discussion of the primary causes of foot imbalance, including defects in bony architecture, relaxation of ligaments and muscle imbalance. There are chapters on foot imbalance in childhood, adolescence and the adult. Many suggestions are offered for strengthening of muscles by local treatment, forms of fixation, with an extensive consideration of shoes, both for adolescents and adults. Attention is paid to hallux valgus, with descriptions of conservative as well as operative treatment. There is much information in this book which all physicians should possess.

M. C. LILE

ILLUSTRATIONS OF SURGICAL TREATMENT. INSTRUMENTS AND APPLIANCES. By Eric L. Farquharson, M.D., F.R.C.S.E., Tutor in Chemical Surgery, Royal Infirmary of Edinburgh. 338 pp., \$6.50. The Williams and Wilkins Co., Baltimore, 1939.

The first two chapters of this book are on continuous intravenous infusion and blood transfusion. The last third of the book contains pictures and descriptions of surgical instruments and appliances. The remaining two-thirds is taken up with orthopedics. The various subjects are clearly written, and comprehensive enough to be of value to the man wishing to refresh his information. In the orthopedic section such diverse conditions are considered as manipulations for tennis elbow and congenital dislocation of the hip. The last section of the book, dealing with instruments and appliances, would be of value in any surgery or in teaching any group of students. The outstanding feature of the book is the illustrations which make for clarity.

DAVID METHENY

AN INTRODUCTION TO GASTROENTEROLOGY. Being the Third Edition of *The Mechanics of the Digestive Tract*. By Walter C. Alvarez, Professor of Medicine, University of Minnesota, etc. With 186 Illustrations. 778 pp., \$10. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York and London, 1940.

This volume is more than a revision of previous editions, for in its text and very comprehensive bibliography progress in gastrointestinal research is not only brought thoroughly up to date, but valuable clinical application emphasized. In reference to ulcer, "Two of the most stimulating and practically helpful articles on the causation of ulcers and pain are those by Langenskiöld, and Mann and Bollman. They show in dogs with fistulas that unbuffered dilute hydrochloric acid trickling through stomach and duodenum gradually exhausts defensive powers of the mucosa, producing first distress and later pain, with reddening, irritation and finally superficial ulceration.

"These studies explain why the pain of ulcer or pseudo-ulcer is best relieved when food is taken within a few minutes after pain appears. In many cases, if the patient waits for an hour or two to secure food, the relief obtained is imperfect or transient. Furthermore, when pain reappears some morning after a six months' interval of freedom, if food is taken immediately, the patient may avoid going on into an attack lasting a month or more."

One learns that many common abdominal symptoms and physical findings are logically explained by definite dyskinesia affecting various parts of the gastrointestinal tract and the ducts of the hepatic and pancreatic systems. The study of this attractive and valuable volume is essential to an adequate knowledge of gastroenterology which cannot be too highly recommended to all students of the subject.

C. E. HAGYARD.

VIRUS AND RICKETTSIAL DISEASES. With Especial Consideration of Their Public Health Significance. 907 pp., \$6.50. Harvard University Press, Cambridge, Mass., 1940.

This is the first simple and adequate survey of the swiftly advancing knowledge of virus and rickettsial diseases. The articles are written by twenty different workers in the field, headed by Hans Zinsser, most of them from the Harvard School of Public Health.

Many of the viruses, such as yellow fever and poliomyelitis, are even smaller than some of the large protein molecules. They have no cellular structure, are crystallizable, and live entirely within the living cell. Once within

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, *AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES*, Vol. 23, No. 2, pages 201-206, March, 1939.

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the cell they are immune from immune processes. The immune bodies are operative only in the prevention of spreading. These organisms are so "exquisitely parasitized" that they live within the cell without eating or breathing, that is, without metabolism of their own, and they have reserved only the procreative principle.

The rickettsial diseases of man are defined as self-limited specific infectious diseases, transmitted by arthropods, and characterized by continued fever and a rash. The pathology is chiefly in the blood vessels and lesions are produced by the actual presence of the microorganisms and not by diffusible toxins. The principal rickettsial diseases are Rocky Mountain spotted fever and the typhus group. The sum total of virus and rickettsial diseases now about equals those of bacterial origin. Read this book, if you would be enlightened on one of the vital growing points of medicine.

PAUL WHELAN

CARDIOVASCULAR RENAL DISEASE. A Clinicopathologic Correlation Study Emphasizing the Importance of Ophthalmology. By Lawrence W. Smith, M.D., Professor of Pathology; Edward Weiss, M.D., Professor of Clinic Medicine; Walter I. Lillie, M.D., Professor of Ophthalmology; Frank W. Konzelmann, M.D., Professor of Clinical Pathology; Edward S. Gault, M.D., Associate Professor of Pathology—all of Temple University School of Medicine. 227 pp., \$4.50. D. Appleton-Century Co., Inc., New York, 1940.

It is stated that every other individual past fifty years of age in the United States dies of cardiovascular renal disease. This monograph deals with the relationship between clinical, ophthalmologic, pathologic and laboratory findings in the disease. Material has been collected from almost every available source. Various types of nephrosclerosis and arteriosclerosis are dealt with in detail. Use of the ophthalmoscope is stressed and an effort has been made to show how much more reliable information can be obtained by its use than is ordinarily anticipated. It is recommended that the obstetrician as well as the internist become more familiar with this instrument. Numerous plates showing retinal changes in various aspects of the disease are included. In the appendix will be found several charts and tables which enables one to understand more readily the relationship between various kidney and cardiovascular conditions which have been described. Little mention is made of treatment except to show that by attempts to lower blood pressure alone the key to the successful management of hypertension and allied conditions is lost.

A. G. FRIEND

ON OXIDATION, FERMENTATION, VITAMINS, HEALTH AND DISEASE. By Albert V. Szent-Gyorgyi, M.D., Ph.D. (Cantab.), D.H.C., Prix Nobel, Professor of Medical and Organic Chemistry, University of Szeged. 109 pp., \$2.00. The Williams & Wilkins Company, Baltimore, 1939.

This volume consists of a series of lectures delivered by the author at the School of Medicine, Vanderbilt University, under the auspices of The Abraham Flexner Lectureship. The author presents results of research in lines of investigation little known to the medical profession. They deal with respiration of muscles, fermentation and some problems of intermediary metabolism and vegetable oxidation and other topics. Descriptions of these conditions indicate that they have a bearing on the physical economy, influencing health and disease. A brief, lucid explanation of the contents is impossible. They offer interesting observations worthwhile to the investigator.

A MIRROR FOR SURGEONS. Selected Readings in Surgery. By Sir D'Arcy Power, K.B.E., F.R.C.S., Consulting Surgeon to and Archivist at St. Bartholomew's Hospital, London. 230 pp., \$2.00. Little, Brown and Company, Boston, 1939.

Besides being a distinguished surgeon, the author is well known as a bibliophile. In addition to assembling biographic material, he has contributed many biographies of surgeons. This volume presents attractive sketches of distinguished surgeons, ancient and modern. Beginning with John Arderne (1307-1380) and ending with Sir William Macewen (1848-1924), the sketches include Ambroise Pare, Percival Pott, John Hunter, Lord Lister, John Collins Warren, Henry Jacob Bigelow, James Marion Sims. Most of these sketches include personal incidents of professional life that add to their attractions.

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This journal goes to press the first day of the month. Material for publication should be received by the 25th of the preceding month.



Reprints will be furnished by the printer according to the schedule of prices which accompanies the galley proofs submitted to the author. The order for reprints should accompany the returned galley proofs. The printer holds the type until the first of the following month.



Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

EDITORIALS

WAGNER HOSPITAL BILLS

Two separate bills dealing with medical matters have been introduced into Congress by Senator Wagner of New York. They should not be confused. The first or original Wagner Bill was the one which would have set up a vast scheme of bureaucratic medicine. The present bill, designated S. 3230, provides for construction of hospitals but does not replace the first bill.

S. 3230 was introduced February 1 and was discussed at a hearing of the subcommittee of the Committee on Education and Labor on March 18. It proposes to authorize \$10,000,000 for the fiscal year ending June 30, 1941, and for each subsequent year whatever Congress may decide, for construction of hospitals to serve rural areas and sections which are economically depressed. Need for the hospital must be shown, the needs to be reviewed by an advisory council of six members who are to confer with the Surgeon General of the Public Health Service. Sites are to be donated by local authorities or voluntary organizations, the federal government to pay for cost of construction and retain title to the property which will be leased to the local group. Consideration in the lease arrangement is maintenance and operation of the hospital. Average size of the hospitals is expected to be about one hundred beds. Construction is to be done as much as possible by the WPA, a special clause in the act eliminating for this project the \$55,000 limit on buildings constructed by the government with WPA labor. A hospital in this bill is defined as "the physical facilities necessary for the prevention, diagnosis or treatment of disease and for the protection of the public health."

At the hearing it was brought out that most careful consideration would have to be given to the matter of need. Dr. William D. Cutter showed that, although eighteen million persons may live in counties without general hospitals, only 2 per cent of the population is now without ready access to a hospital in case of real need. In some sections

the barrier of county lines prevents use of a good hospital by residents of neighboring counties without such facility. Thus present bed capacity might be sufficient for an area or section, if all residents of that area could be accepted in existing institutions without regard to county lines. The American Medical Association has made a study of the conditions in one state, Mississippi, and found that all white persons could readily secure hospital services if desired but that there were insufficient beds for the colored population.

In the Northwest the need for hospitals has been reported to the Surgeon General by the health officers of the states of Oregon, Washington and Idaho as follows:

Frederick D. Stricker, Oregon: The building of a hospital as a public health center would be of advantage and there are at least ten counties which could probably support a county hospital.

R. H. Fletcher, Washington: The general hospital situation is fairly adequate except in Benton and Klickitat counties which need fifty beds each. On the basis of two beds per annual death, 569 additional tuberculosis beds are required. A seventy bed tuberculosis hospital is needed in Vancouver or Longview; one ninety bed hospital is needed in Yakima. Some steps have already been taken in both of these areas to provide the necessary beds but lack of sufficient funds has so far prevented construction. At least one hundred additional tuberculosis beds are needed to serve Whatcom, Skagit, Snohomish, San Juan and Island counties; fifty beds are needed in Wenatchee and some additional beds are needed in Grays Harbor and Spokane counties.

H. L. McMartin, Idaho: Lemhi County, the city of Salmon, with a population of approximately 2,500 has no hospital facilities of any kind available. It is doubtful whether the area could maintain a hospital without outside assistance. The most urgent need confronting the state of Idaho at the present time is that of providing adequate facilities for the hospitalization and treatment of tuberculous patients. Only two institutions exist, at Boise and Coeur d'Alene. One hundred deaths occur from tuberculosis annually. We are in immediate need of one tuberculosis hospital of at least one hundred bed capacity. From four hundred to five hundred active cases in the state are predicted.

One of the difficulties to be met in providing hospitals for economically depressed areas is well expressed in Dr. McMartin's statement. If the area in question is unable to pay for construction of a hospital, there is small likelihood that it will be able to maintain properly such an institution, even though the federal government should build it. Cost estimates vary quite widely but Surgeon General Parran estimates that these hospitals may be built for as little as \$1,500 per bed. He also estimates that it might be possible to operate them for \$3 per patient day. While both of these estimates are low, it is nevertheless apparent that cost of operation for a period of two years or less would equal cost of construction.

It should be noted that the advisory council of

six members is to advise the Surgeon General only and is not given the power to approve. Such a provision would serve as a valuable check on the power of that official. Another point of interest in the proposed bill is that no time limit is provided. Thus, the program of hospital construction instituted by this bill might run on for an indefinite number of years, subject only to the size of appropriations made by Congress. The most dangerous aspect of the bill, however, is the fact that it sets a new pattern for activity of the government, establishes a system of federal hospitals which in the words of Senator Wagner himself is "merely a modest beginning on a program tending toward a national health bill."

MEDICAL LEGISLATORS

Whenever the season approaches for assembling of our legislative bodies, the specter of state medicine arises to produce much concern and agitation among the medical profession. Regardless of any prospective enactment which may be considered by Congress affecting medical practice in the nation, the legislators in the states feel called upon at every session to introduce measures regulating medical practice or in some way determining its relations to the public. Already rumors are afloat concerning bills in the process of preparation for the purpose of regimenting the profession and restricting its methods of practice, for the most part devised by laymen with little or no cooperation with the medical profession. Also other measures are contemplated, having for their objectives promotion of various forms of medical interests favoring individuals or groups at the expense of the whole profession and their relations to citizens of various communities.

In order to supervise such legislation and extend to legislators sympathetic advice and information, two procedures are available. For the purpose of providing technical assistance and regulating misinformation, in each branch of the legislature of our states there should be a group of physicians with character and ability that will command respect and attention of other legislators. Thereby much misdirected medical legislation may be checked or controlled. Since the medical members must of necessity be a small minority, observation and familiarity should also be exercised regarding other prospective legislators in order to ascertain their views on medical and health problems that may be presented for enactment. Already such surveys are under contemplation or in the process of execution to determine in advance the attitude

toward such legislation on the part of aspirants for legislative service. Although our election dates are several months in the future, attention to these matters will not be premature, however much attention may be paid to them during coming weeks. If deferred to a late season, or action is attempted in the hurried periods of usual campaigning, there will be a lack of coordination of efforts which may render them futile.

POSTGRADUATE PROGRAMS

During recent years in all parts of the country attention has been devoted to postgraduate medical courses of lectures and clinics. In the Pacific Northwest these have become established features. Announcements have already been made of postgraduate courses scheduled for the coming months without details for all of them as to personnel of speakers and subjects of lectures. In this issue these details are presented with more specific information regarding them. In order of their occurrence, the first program will be that of Vancouver Medical Association Summer School at Vancouver, B. C., June 25-28. This medical association has staged its course of lectures for a number of years, and it has become an established feature among the medical profession of the province. Information concerning this course will be found on page 9. Next in order is the meeting of Pacific Northwest Medical Association at Spokane, July 10-13. This is a revival of the courses of lectures of this association which for a number of years were extensively patronized among the states of the Northwest and Canadian provinces. Information concerning this course will be found on page 8, where the lectures are listed. Longest established as a regular institution has been the University of Washington Graduate Medical School course at Seattle where, for a long period of years, it has been scheduled for midsummer, this year occurring July 15-19. Its schedule of speakers and lectures will be found on page 9. From these programs one realizes that efforts are being made to provide postgraduate instruction for physicians of the Pacific Northwest which will bring to them the latest advances in medicine, surgery and some of the specialties.

NEW PSYCHIATRIC SOCIETY

Frequently one hears the criticism that we have an excess of medical societies, new ones being constantly introduced and supported. Some have expressed the opinion that the profession would be better off if the existing number were reduced so that attention of the profession might be more

concentrated on a smaller number of worthy organizations. Nevertheless, a new society was launched last month. None of this character exists in the Pacific Northwest, and there seems to be a legitimate field for its activities. On April 20 the psychiatrists of this region met in Tacoma and organized North Pacific Society of Neurology and Psychiatry. According to its constitution there are to be two meetings a year. Anyone interested in psychiatry or neurology may become a member on application. Fellowship is limited to charter members, and in future only those who have passed national board examinations, or belong to the American Psychiatric or Neurologic Associations may become members.

There were about fifty fellows at this first meeting, including men from British Columbia, Washington, Oregon and Idaho. The Canadian men are especially to be commended for making the effort to attend this meeting. Officers elected include E. D. Hoedemaker, Seattle, president; Henry Dixon, Portland, vice-president; Charles Larson, Tacoma, secretary-treasurer. Dr. Larson, pathologist at Tacoma General Hospital and Western State Hospital, was the guiding spirit that finally assembled the members for this long contemplated organization.

Objectives include presentation and discussion of scientific papers and promotion of mental health of the community. The program of the meeting included the following papers: "Some Prepsychoanalytic Concepts of the Subconscious" by D. E. Alcorn of Victoria, B. C.; "Hydrocephalus Due to Syringomyelia of the Aqueduct of Sylvius" by Vinton Sneed of Portland and Charles Larson of Tacoma; "Psychiatric Evaluation of Case Material" by Carroll Carlson of Tacoma; "Mechanism of Metrazol Shock Treatment" by Frederick Lemere of Seattle; "Protruded Intervertebral Discs" by John Raaf of Portland; and "Therapy of Morbid Compulsive Reactions" by Henry Dixon of Portland.

THIS SURGICAL ISSUE

For a number of years it has been customary for this journal to devote an issue to papers read at the annual meeting of Seattle Surgical Society. The reasons for assembling these papers are the variety of topics considered and the brevity of each descriptive paper which was necessary in the presentation of the program. It is believed that the publication of this variety of surgical subjects, and the emphasis of personal experiences will prove profitable. It is hoped that it will meet with a satisfactory reception.

ORIGINAL ARTICLES

LIPIODOL VERSUS AIR

AS AN AID IN DIAGNOSIS OF PROTRUSION OF INTER-
VERTEBRAL DISC.*

S. N. BERENS, M.D.

SEATTLE, WASH.

The choice of a contrast medium is important in diagnosis of intraspinal lesions when roentgenograms of the spinal canal are to be made for the purpose of localizing deformity. So far no ideal contrast medium has been devised. Until recently iodized oil has been the most popular medium, but it is not without disadvantages, in spite of all that proponents claim for it. Various other media have been tried such as skiodan and colloidal thorium dioxide. Recently air (or oxygen) has become a very useful contrast medium. However, there are also limitations to its usefulness. In some cases I believe it is good judgment to use, first air and then lipiodol in establishing the diagnosis.

Since air does not produce an outstanding shadow where the volume is small and it is thinned out, it does not always reveal sharp outlines to clearly define small lesions and so small deformities may be missed when it is used. Air is not as useful in lesions which deform the spinal canal in the dorsal region because of the blending of shadows produced by the ribs. In this region lipiodol visualization is the most efficient method.

The importance of intraspinal protrusion of the intervertebral disc as a cause of low back pain and sciatica has become more apparent since the work of Mixter and Barr in 1934. The difficulties of diagnosis of this lesion have been the subject of much literature during the past few years. Since the lesion is a space-occupying one, the decision as to which is the proper contrast medium for roentgenographic visualization of the spinal canal has been one of the most important diagnostic problems. The presence of an indentation or other deformity of the known normal contour of the contrast filled dural sac is regarded as evidence of pressure which may be caused by a protrusion of the intervertebral disc,

or herniation of the nucleus pulposus, and in some instances hypertrophy of the ligamentum flavum. Figures 1 and 2 will serve to refresh our memory of the anatomy of the lumbosacral region.

The history and clinical neurologic examination are not to be neglected in favor of contrast roentgen examination just because we are dealing with a space-occupying lesion, and because the history and clinical findings are often vague and frequently intermittent. The history may indicate that the patient had a severe sprain or wrench, causing injury to the lower back with continuous pain in that region, which may or may not radiate down one or the other sciatic nerve distributions. On the other hand, he may state that he has frequently sprained

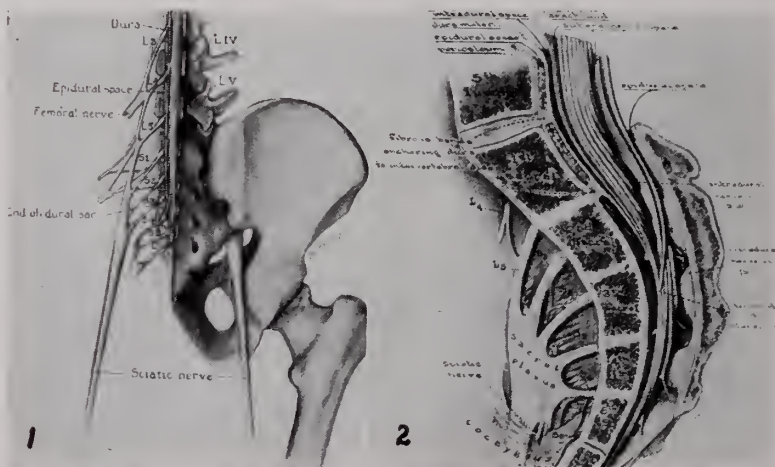


Fig. 1. Anatomy of lumbosacral region showing relationship of cauda equina and lumbosacral nerve roots to the vertebrae and pelvis.

Fig. 2. Anatomy of epidural space, sagittal section. Anterior spinal roots enter intervertebral foramina and emerge into pelvis to form sacral plexus. Fibrous bands anchor dura anteriorly to intervertebral discs. The dura is free posteriorly and laterally. (From Steel, in *New England J. Med.*, 219:474, 1938.)

his back but never severe enough to cause him any more than temporary time loss.

One of the characteristic neurologic findings is the absence of Achilles reflex. However, the presence of this reflex does not rule out the diagnosis of intraspinal deformity such as a herniation of the intervertebral disc. There may or may not be loss of motor power in some of the muscle groups of one or the other of the lower extremities; there may or may not be atrophy of the muscles of one or the other of the lower extremities. Sensory disturbances of skin areas are not infrequently absent, even though there is considerable edema of nerve roots.

Spinal fluid examination should be done carefully. The sample to be examined for total protein should be the first two cc. that come from the spinal needle after two or three drops have run away. If twenty or thirty cc. are collected, the factor of dilution

*Read before Annual Meeting of Seattle Surgical Society, Seattle, Wash., Jan. 26-27, 1940.

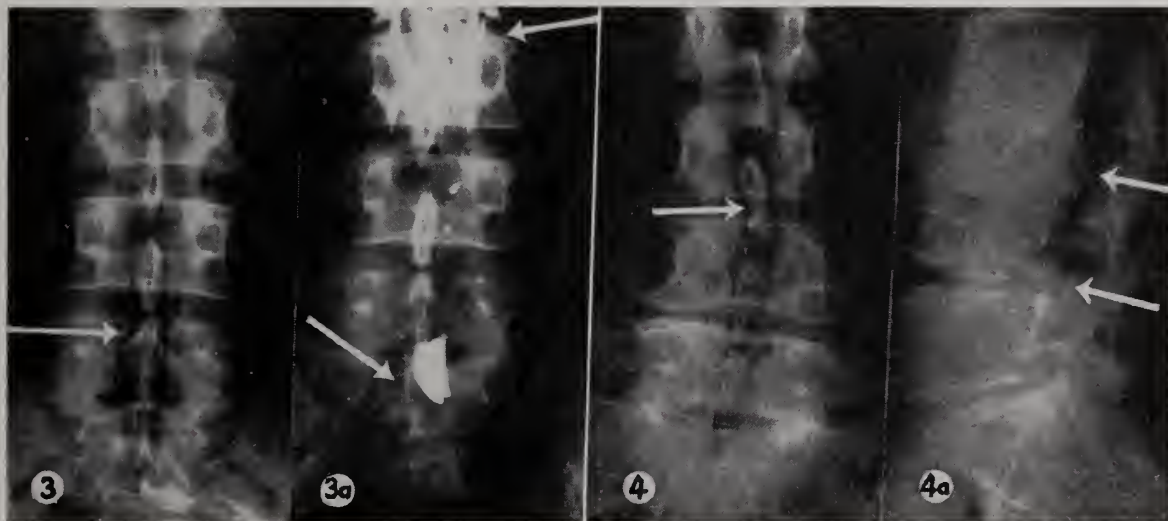
enters in to introduce error in the test. Normal determination of total protein in the lumbar canal should not exceed 45 mg. per cent; in the cisternal portion of the canal it should not exceed 25 mg. per cent. However, many large herniations of intervertebral disc have been found, in which the lumbar total protein was much less than 45 mg. per cent.

To return to the choice of contrast media as a corroborative diagnostic procedure, it is evident that, if no operation is to be performed for the removal of the iodized oil, it would be unwise to inject it and leave it there, even though evidence seems to indicate that it does not produce an inflammatory reaction in every case. One undesirable feature that is important, especially in compensation cases, is the presence of the opaque oil revealed in every subsequent roentgenogram which the patient or

and the dura is opened and a large part of the lipiodol is removed, it is usually impossible to remove it all.

From this standpoint air or oxygen have a great natural advantage, since they are absorbed within a few hours and leave no aftereffect. They are especially valuable when an attempt is being made to diagnose a borderline case, since air injections may be done several times, if necessary to verify the presence and localization of a pressure producing mass; and if it is eventually decided that no deformity exists, there are no foreign bodies left in the patient such as remain when lipiodol is injected and none or only part of it is removed.

One of the disadvantages of the use of air is that the best roentgen plates are obtained by overexposure at rapid speed, such as can be obtained by



Figs. 3, 3a. R. R. Injured December 29, 1939, lifting on a bar, when suddenly felt severe pain in center of back which radiated down his leg to the ankle. Pain present continuously. Has spasm of right lumbar muscles. Flexion of right thigh on abdomen causes pain. Motions which cause tilting of pelvis cause pain. Neurologic examination negative. Intraspinal air injection January 8, 1940. Lipiodol injection January 12. (a) Spinograms after air injection show deformity of air shadow at interspace between 4th and 5th lumbar vertebrae. (b) Spinograms after lipiodol injection show an obstruction to passage of oil downward between the 4th and 5th lumbar vertebrae, but in the almost erect position some oil passes downward to interspace between 5th lumbar and sacrum. There is some pressure deformity from the right side at this level. Also shows diffusion of lipiodol when part of it gets outside arachnoid membrane.

Figs. 4, 4a. M. B. History of stiffness and lower back pain which radiated down right leg; began fifteen years ago. Two weeks bed rest with extension started gradual

improvement. Ten years ago, when bending over, felt sudden snap in her back and severe pain there. Had back manipulated under anesthetic with some relief. In 1932 the same thing happened and she experienced relief until 1938, at which time she developed sudden onset of severe shooting pains in lower back, going down right leg. In 1939 had more acute pain and diagnosis of arthritis of the spine was made and steel brace recommended which gave relief until the first of April, when pain in lower back radiating down right leg returned. Examination revealed tenderness of lumbosacral region but not along the course of sciatic nerve. Right Achilles reflex decreased. Patchy areas of anesthesia of right calf and thigh. Right thigh 2 cm. smaller and right calf 1 cm. smaller than left. Lumbar total protein 24.5 mg. per cent. Radiographs of oxygen filled dural sac show definite protrusion of disc at third and fourth lumbar interspace. There is great atrophy of lumbosacral disc and lipping of apposed surfaces. Laminectomy and removal of herniation of intervertebral disc April 9, 1940.

unscrupulous attorneys and doctors may use to unfair advantage in obtaining excessive compensation for the patient. This opaque oil will be found months or years later distributed along nerve roots along the spinal canal and even up around the brain. Therefore, I believe that practically all neurosurgeons agree that lipiodol should not be injected unless an exploratory operation has been previously decided upon. Even when a laminectomy is done

the use of a rotating anode tube apparatus at 300 milliamperes and one-half second exposure. Equipment of this kind is not available for all patients and physicians who wish to do this type of diagnostic work. Another disadvantage of air is that it is somewhat painful and strong sedatives or some type of anesthetic, such as intravenous pentathol sodium, is usually required. In favor of it may be stated the experience of those who have used air a

great deal and have found that, if a positive diagnosis is made with it, there is rarely a case where the pathology was not found at the time of operation.

Because of the greater viscosity of iodized oil, deformities which are not evidence of pathology are occasionally seen. Also because of the viscosity, great care must be taken to get it inside the arachnoid membrane. This seems like an obvious bit of advice but this unfortunate circumstance can happen very easily.

All neurosurgeons are looking forward to the day

pend to a large extent on either lipiodol, air or oxygen.

Many conservative neurosurgeons feel that air or oxygen spinograms should be made first and most of the lesions requiring surgery will be demonstrated. Sentiment is rapidly crystallizing in favor of depending largely upon clinical diagnosis and using oxygen myelography as corroborative evidence. Thus, lipiodol injection will be reserved to localize a protrusion which requires surgery and yet is of such small size and location as not be to shown by air or oxygen spinograms. The difference be-



Figs. 5, 5a. C. M. June 29, 1939, fell from step, landing in sitting position. Severe backache with pain radiating down right leg. Numb tingling sensation in toes. Discomfort increased by sitting or lying in bed. Decreased sensation over dorsum of right foot and up anterolateral surface of leg. Dorsal flexion of right foot weak. Tenderness right sciatic nerve. Straight leg raising of right leg causes pain down the leg. Intraspinal air injection September 6, 1939. Lipiodol injection September 9. Roentgenograms after air injection. Roentgenograms show lipiodol column in lumbar canal broken at level of third intervertebral disc and somewhat constricted at level of the second. The defect appears to be in about the midline. There is no oil below this level. Lumbar total protein 31.2 mg. per cent. Cisternal total protein 22.7 mg. per cent. Laminectomy September 13. A bulging mass was found protruding from anterior wall of spinal canal at level of 3rd lumbar intervertebral disc. Dura opened and a bulging mass encountered which could be compressed. This mass lay directly in the midline and was about the size of a dime and was elevated about three-fourths-inch at its highest point. Present condition much improved. Able to return to work. Old pain present before injury not present now.

Fig. 6. G.T. June, 1939, received slight injury to back. Two months later developed severe pain in lumbar region,

radiating down left sciatic nerve distribution. There is area of decreased sensation on left instep. Left calf measures one-fourth-inch smaller than right. Spasm of lumbar muscles. Decreased tone of calf and thigh muscles of left leg. Lumbar total protein 58.5 mg. per cent. Lipiodol injection February 1, 1940, shows distinct narrowing of lipiodol column at level of lower border of fifth lumbar vertebra. Laminectomy February 1 revealed bilateral hypertrophy of ligamentum flavum at level of fourth and fifth lumbar interspace. Pain which the patient had for months disappeared completely immediately after operation and he is up and around. He has now returned to work.

Fig. 7. C. B. October, 1937, a casting weighing 8.5 pounds fell 15 feet, striking him on the back of the neck. Headache which started right after the injury has been continuous since. He had fractures of two vertebrae in his neck. Neurologic examination negative. Intraspinal air injection May 6, 1938. Defect in air shadow at level of intervertebral space between fifth and sixth cervical vertebrae. It appears at this level that there is slight deformity in the anterior wall, compressing it from the left towards the midline. Lumbar total protein 42.3 mg. per cent. Cisternal total protein 35.5 mg. per cent. No operation.

when there will be available some type of contrast medium that is an absorbable radiopaque, non-irritating substance which has a specific gravity greater than cerebrospinal fluid. When the series of cases of protrusion of the intervertebral disc is large enough so that physicians will become thoroughly familiar with this clinical picture, the diagnosis will be made and operation will be performed without the necessity of corroboration with roentgen visualization of deformity of intraspinal contrast media in many cases. Until that time we must de-

tween the diagnostic value of air or oxygen and lipiodol can be illustrated by pointing out the advantage of the half tone profile view as compared to the silhouette. Roentgenograms (figs. 3-7) demonstrate use of lipiodol and oxygen or air as an aid in diagnosis of spinal lesions.

SUMMARY OF SIGNS WHICH, IF PRESENT, ARE IMPORTANT IN DIAGNOSIS OF PROTRUSION OF INTERVERTEBRAL DISC AND HYPERTROPHY OF LIGAMENTUM FLAVUM

History

History of fall, twist or sprain.

Intermittence of injury and symptoms.

Improved by prolonged bed rest.

Return of symptoms after minor sprains or twists of back.

Complaints

Low back pains made worse on motion, especially flexion of back.

Radiation of pain down sciatic nerve.

Weakness and frequently atrophy of affected leg.

Patchy numbness of affected leg.

Findings

Tenderness over lumbar spine and sacroiliac region.

Spasm of lumbar muscles.

Tenderness of sciatic nerve.

Atrophy of thigh or calf muscles.

Weakness of thigh or calf muscles.

Loss of Achilles reflex.

Patchy areas of anesthesia.

Limitation of motion of lower back and affected leg, especially flexion or rotation.

Increased total protein of spinal fluid.

Positive spinal deformity as revealed by lipiodol or air or oxygen.

SUMMARY OF IMPORTANT POINTS IN FAVOR OR AGAINST USE OF LIPIODOL AND AIR (OR OXYGEN) IN DIAGNOSIS OF DEFORMITIES OF SPINAL CANAL

Oil

For

1. Clearer picture.
2. More accurate on small lesions.
3. Easy to perform.
4. Not painful, no anesthetic.
5. Useful in any part of the spinal canal.

Against

1. Operation necessary for removal.
2. Inflammatory reaction resulting from oil not removed.
3. All oil not removed; subsequent roentgenograms always show its presence.
4. Occasionally oil extradurally.
5. Material for malpractice suit.

Air

For

1. Will reveal all medium-sized or large deformities of dural sac, such as would unquestionably require surgery.
2. No aftereffects.
3. Nothing to be revealed later by examination or roentgenogram if case test is negative.
4. Test no material for malpractice suit.
5. Check of total protein.
6. May be performed several times if necessary.

Against

1. Powerful roentgen apparatus necessary.
2. Not so clear always.
3. Not as accurate for small lesions.
4. Painful—need sedative or anesthetic.
5. Most useful in lumbar, sacral and lower dorsal deformities.
6. More time and trouble to perform.

CONCLUSIONS

Roentgen visualization of deformities of the contrast filled dural sac is considered to be highly desirable before surgery is attempted. From the practical standpoint, oxygen I believe to be a better contrast medium than lipiodol, for the visualization of lesions which will require surgery. Furthermore, it has none of the disadvantages of lipiodol. In occasional cases lipiodol may be necessary for the localization of confusing or borderline cases.

VITALLIUM IN INTERNAL FIXATION IN BONE SURGERY

J. IRVING TUELL, M.D.

SEATTLE, WASH.

Twenty-five years ago metal was widely used as a means of internal fixation in bone surgery after popularization by Lane and others. Because of the great variation in results and many complications, including nonunion and osteomyelitis, the method fell into disrepute. Henderson, at the Mayo Clinic, found that in two hundred and eleven cases operated on for pseudarthrosis 66 per cent were due to fixation with Lane plates.

In 1937 Venable, Stuck and Beach published a report of their experiments, showing that previous metals produced a deleterious effect, due to electrolysis produced between the ions of the metals used in the alloys. They showed that alloys composed of metals occupying positions in the electro-motive series at nearly the same levels do not produce electric current, and, therefore, remain electrolytically inert in bone.

Vittallium is an alloy composed essentially of 65 per cent cobalt, 30 per cent chromium and 5 per cent molybdenum. It had previously been used in the manufacture of dental appliances and dental inlays, and was found to have sufficient strength for internal fixation in bone. The metals of which it is composed are electrolytically and chemically inert in body fluids. As the material has been commercially available since 1938 in the form of bone plates, screws, Smith-Peterson hip nails and the like, I have used it almost to the complete exclusion of other metallic means of internal fixation. The following four cases were selected as illustrations of its efficacy:

Case 1. F. F., male, age 54. Four plus Wassermann and 4+ Kahn. This man suffered an oblique fracture of the tibia and fibula September 6, 1938. A delayed union ensued and the leg was immobilized in a plaster cast for six months. On April 24, 1939, he refractured this leg, the fracture of the tibia occurring through the original line. Roentgenogram at that time showed eburnation of the bone ends, fracture through the callus of the tibia and a fresh spiral fracture of the fibula.

On April 25 a sliding bone graft was performed after freshening of the fractured ends of the tibia and placing of the multiple small drill holes for revascularization of the sclerotic ends. The graft was held in place with one vitallium screw in each end and a loop of Babcock's stainless steel suture wire. The cast was removed August 8, three and a half months later, and the fracture was completely healed.

The Wassermann was still 3+ and the Kahn 2+ in spite of treatment with bismuth-in-oil during the entire period. There was no evidence of any absorption of bone about the screws roentgenologically. These screws are still in

*Read before Annual Meeting of Seattle Surgical Society, Seattle, Wash., Jan. 26-27, 1940.

place and the patient walks well and has had no further trouble.

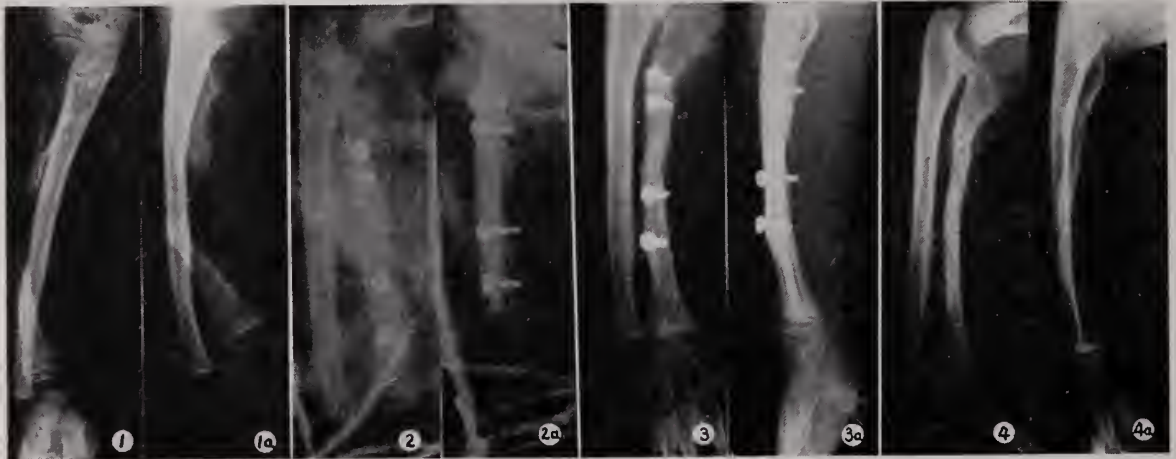
Case 2. Female, age 45. Had a compound fracture of the left radius and ulna March 1, 1937, during an epileptic fit. A localized osteomyelitis of the left ulna ensued and non-union of both bones occurred. January 19, 1938, after the wound had been dry for six months, an onlay graft of the radius and ulna was performed through separate incisions, the bones being shortened to make a short step overlap. Fixation was secured by a stainless steel Parham band on each end of each bone. This resulted in excellent union of the radius but there was a recurrence of the osteomyelitis of the ulna. On June 10 the sequestered graft was removed from the ulna and the wound was packed open. In January, 1939, the bands were removed from the radius.

On August 2, after the ulnar wound had been healed for nine months, a massive bone graft was again applied to the ulna and this was fixed with four vitallium screws. The wound healed by primary intention and roentgenograms at the present time show almost complete union of the graft. There is a slight amount of rarefaction of the bone visible adjacent to the proximal vitallium screws. Clinically the graft is solidly united and the patient is using the arm without external support. She has normal function of her fingers, but fixation as regards pronation and supination in the neutral position, due to a cross union between the two bones. These screws are in position and it is not planned to remove them unless she has further trouble.

bone was freed subperiosteally almost for the full length of both fragments to correct the marked angulation. The bone was imbedded in rather dense scar tissue so that the angulation could not be corrected without the subperiosteal dissection. The ends were freshened. The massive graft was fastened in place, two vitallium screws in each fragment, after traction had been made on the wrist to correct the shortening and angulation (fig. 2). This secured full length of the radius. In the large deficit between the two ends there were placed also bits of cancellous bone curreted from the proximal end of the medullary cavity of the tibia. Two weeks following the operation the cast was removed without fear of disturbing the bone fragments because of the rigid fixation of the graft. The sutures were removed and a nonpadded cast was applied from the knuckles to the shoulder.

September 22 there was excellent union with restitution of the shaft of the radius (fig. 3). There was no evidence roentgenologically of absorption of bone about the screws. October 1 the screws were removed through tiny incisions. They were found to be tightly held in the bone and had to be started loose with the screw driver with some exhibition of force, demonstrating the complete absence of bone absorption. These wounds healed by primary intention. She had excellent use of the fingers except for some weakness of the extensors of the wrist and fingers, due to extensive scarring of the muscle tissue (fig. 4).

This patient was presented in person to the



Figs. 1 and 1a. Preoperative roentgenograms.

Figs. 2 and 2a. Three weeks after massive onlay tibial bone graft, fastened with four vitallium screws. Shortening and angulation have both been well corrected.

Figs. 3 and 3a. Four and a half months postoperatively with cast off.

Figs. 4 and 4a. Three months after screws were removed. Complete restitution of shaft of radius with full length.

Case 3. Female, age seven years. At the age of two years the patient's right forearm was pulled through the power wringer of an electric washing machine. There was a large slough of the skin and muscles on the radial aspect of the forearm. Pathologic fracture of the radius in the midportion occurred and a considerable portion of bone sloughed out. The large deficit of skin was covered by a pedicle skin graft by Dr. Herbert Coe. The wounds healed nicely. There has been no drainage from the arm at any time since.

Roentgenogram April 22, 1939, when the child was first seen by me, revealed a deficit of about two inches of the midportion of the radius with the ends tapered down to a point (fig. 1). There was marked shortening of the radius and radial deviation of the wrist with marked angulation of the distal fragment.

May 7 a massive graft was removed from the tibia. The bone ends were exposed through a dorsal incision and the

meeting to show the excellent function and appearance.

Case 4. Age 70, male. On March 9, 1939, the patient fell, causing an intracapsular fracture of the neck of the right femur. Because of head injury he was kept in traction until March 22, when, under local anesthetic and morphine and scopolamin analgesia, a Smith-Petersen vitallium nail was placed in the hip through a lateral incision in the retrograde manner. The method used for directing the pin was essentially as described by Westcott, in which the nail is inserted at a predetermined angle set off upon a small metal protractor, at a measured distance down from the tuberosity on the lateral surface of the femur. By this method the nail may be inserted rapidly and accurately in an average elapsed time of thirty to forty minutes from the time of incision. Anteroposterior and lateral roentgenograms taken on the table revealed excellent position of

the pin with perfect reduction of the fracture. Roentgenogram four months later revealed almost complete obliteration of the fracture line but the patient was kept on crutches for the full six months period to guard against late absorption.

Five months and twenty-seven days after the fracture he slipped on his crutches and again fell, fracturing the left hip. Roentgenogram revealed a fracture of the base of the neck of the left femur. This hip was similarly nailed, using the Smith-Peterson vitallium nail and at the same operation the nail was removed from the right hip.

It was interesting to observe that this nail was still firmly imbedded in the bone, but could be removed with moderate traction on a heavy Kocker forceps without use of the screw extractor apparatus. Roentgenogram January 8, 1940, showed good union of both hips. The fracture line on the right was still visible and there was firm clinical union. He was allowed to walk without crutches after four months because the fracture was at the base of the neck.

This patient was demonstrated in person and he walked without a limp and up and down a flight of stairs without difficulty in a normal manner of progression.

A Smith-Peterson vitallium hip nail has been used in nineteen hip fractures in eighteen patients. One patient, aged 85, died suddenly five days after the operation after she had apparently entirely recovered from the mild operative reaction. Another, aged 77, died three months after operation with an acute cerebral hemorrhage and hemiplegia. The others are all living and in none has nonunion occurred.

These cases are selected to show the value of vitallium as internal fixation in some difficult situations. The first case had a 4+ Wassermann, but that apparently had no effect on healing of the fracture in the face of adequate fixation, and caused no reaction about the screws. The second case was in an epileptic who had frequent fits and the involved bone was the site of a previous osteomyelitis that had been reactivated following previous bone grafting. The third case was in a young girl with a large bone deficit, in which adequate fixation was necessary. The fourth case is an example of excellent fixation, simplicity in handling and excellent function rapidly obtained by use of the internal fixation with Smith-Peterson vitallium nails in hip fractures of the aged.

UNUNITED FRACTURES OF BOTH BONES OF THE FOREARM*

EDWARD LECOCQ, M.D.

SEATTLE, WASH.

Fractures of the radius and ulna frequently result in failure of union. This may be attributed, in part, to the difficulty of obtaining satisfactory reductions in acute fractures of both bones of the forearm.

Imperfect reduction in itself militates against proper healing. When nonunions occur, reconstructive surgery in the way of bone grafting becomes necessary. Various technics and methods have been devised by various surgeons.

1. *Sliding bone graft.* This method, with which we are all more or less familiar, was popularized by Albee. The graft is cut across the site of fracture, is turned so as to place good bone across the area of nonunion, and is held there by sutures of heavy chromic passed through drill holes in the gutter of the graft. Some writers describe the use of autogenous bone pins for holding the graft in place. This type of graft is especially adapted to nonunions of the tibia and fibula, but is also used in other locations.

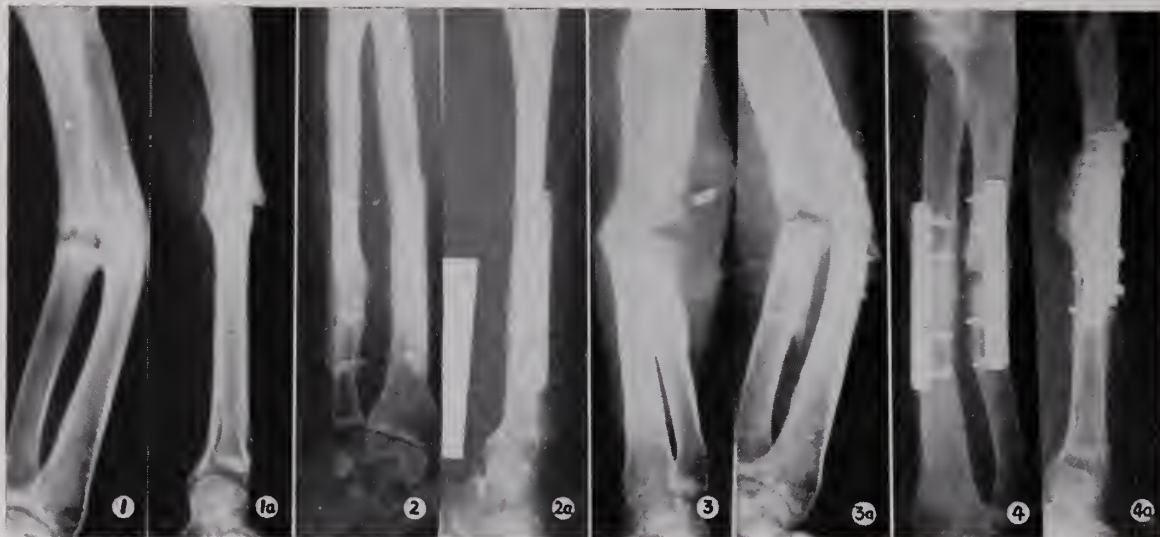
2. *Intramedullary grafts.* This consists simply of a bone graft which, after it is cut, is sunk into the medullary canal and is then driven down the canal across the site of nonunion. This method is no longer extensively used because of technical difficulties and because the percentage of unions does not appear to be as high as in other types of grafting.

3. *Massive onlay bone grafts.* This method has been widely popularized by Willis Campbell and is an excellent procedure, providing a high percentage of unions. A large graft is taken from the tibia and placed upon the ununited bone across the line of nonunion. It is held in place by four or six autogenous bone pegs which are driven into drill holes passing through the graft and through both cortices. Effective immobilization is thus obtained.

Not all bone grafts result in solid unions. Some individuals apparently are lacking in physiologic powers of repair. Disturbances in calcium and phosphorus metabolism may exist and interfere with the formation of callus. It is my feeling that inadequate immobilization following operation for nonunion is responsible for a large percentage of failures. This applies particularly to nonunions of both bones of the forearm.

Following a bone graft of both bones of the forearm, the extremity is immobilized in a plaster of paris dressing. Three weeks later the plaster is changed in order to dress the wounds, remove sutures and put on a more closely fitting plaster, swelling having disappeared and tissue atrophy having occurred, resulting in looseness of the plaster. Certainly at this time union does not exist and there must be motion of the graft while we are carrying out these maneuvers. Even in a skintight, snug plaster, there must be some motion of the graft and bone pegs. At the end of a three or four

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Figs. 1 and 1a. Nonunion of ulna and malunion of radius.
Figs. 2 and 2a. Onlay grafts to both bones.

Figs. 3 and 3a. Complete disintegration of both grafts.
Figs. 4 and 4a. Solid union and good alignment.

week period following operation, there must be some absorption of the autogenous bone pegs and of the drill hole walls, causing loosening of the pegs and possibility of motion. There we have the setting for failure of the graft to take.

In view of these failures it occurred to us that, if some method of providing absolute immobilization of the graft and bone fragments could be devised, failures could be reduced or eliminated. That brings us to a case in point: **CASE REPORT**

C. A., a workman who came to us in April, 1938, with a history of having sustained a fracture of both bones of the forearm about April, 1935. Reduction was not entirely satisfactory. Plaster immobilization resulted in a nonunion of the ulna and malunion of the radius (fig. 1). Operation was performed, at which time the deformity of the radius was corrected by osteotomy, and massive onlay grafts were applied to both radius and ulna, fixing them with autogenous bone pegs (fig. 2). Four months later, after the usual routine care, the grafts had entirely disintegrated and marked deformity existed (fig. 3). From time to time fragments of the graft and pegs extruded, but no infection was ever present.

On April 6, 1939, no further extrusions having occurred for several months, operation was again undertaken. At this time the procedure was altered radically. The bones were exposed, deformity corrected, medullary cavities drilled, scar tissue removed, all in the usual manner. Then a vitallium plate was applied to both sites of nonunion, screwing them in place securely with screws that passed through both cortices. This gave absolute immobilization, and the forearm could be pronated, supinated and moved freely without producing the slightest motion of the fragments. Some strips of bone and a quantity of bone chips were then removed from the ilium. These were packed between and around the bone ends. The tissues were closed in the usual manner and the arm placed in a plaster dressing. This was changed at the end of about three weeks. The end of one plate was slightly exposed. Five weeks later this was about covered over and roentgenograms showed apparent union. In another five weeks the plate had covered over entirely. Roentgenograms showed solid union and excellent alignment (fig. 4). A short time later the man returned to his usual work in the timber industry.

This is presented as a new departure in the treatment of nonunited fractures of both bones of the forearm. This first and only result in a new method of treatment has given a gratifying result and is, I feel, worthy of further trial.

THE GIBNEY DRESSING FOR SPRAINED ANKLE

H. EUGENE ALLEN, M.D.

SEATTLE, WASH.

My excuse for recalling to your attention this well known method of treating sprain of the ankle is that apparently it is so old that it has been forgotten by many. I refer to the Gibney method of strapping the ankle with adhesive plaster.

My experience as examiner for accident insurance companies, and my service as Medical Director of the State Industrial Insurance Department have convinced me that this method is not as generally used as it should be and that, when strapping is resorted to, it is often improperly applied.

Along in the '80's, when our little regular army was chasing Chief Geronimo's Apaches around Arizona, a certain Major Gibney was out on a march with troops, when one of the soldiers stepped into a hole and suffered a severe sprain of the ankle. There was evidently a torn external lateral ligament as shown by the rapid extreme swelling and pain. To support this ligament, he applied the basket weave dressing of adhesive straps, overlapping them to give added strength to the brace, since he had nothing else with him to meet the emergency. The man was helped limping along for a way by his comrades, gradually bearing more weight on the

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injured leg, and after two or three miles was walking without help and very little pain. He marched fifteen miles to the fort, and to the surprise of Major Gibney arrived there with no limp, no pain and no swelling.

Major Gibney thought he had discovered a treatment much superior to the old plaster cast method, so the next case he encountered, he applied this dressing, ordered the man to use crutches and avoid all weight bearing and use for a week or two. The result was the same old swollen, thickened, painful ankle, with from three to six weeks disability. So he decided that his miraculous result before was due to the immediate and constant use of the joint in walking. Lateral motion was prevented by the firm snug support, and the constant hinge motion of the joint in walking in the dressing acted like massage, and distributed the hemorrhage and effusion into the tissues, first maintaining, then restoring the circulation to normal.

The secret of the success of this treatment, therefore, lies in the immediate and prolonged use of the ankle in walking as soon as the ligaments have been protected by the dressing. The first few minutes of walking will be very painful and require use of a cane or crutch, gradually increasing the weight bearing and the length of the stride. This requires full explanation and cooperation of the patient.

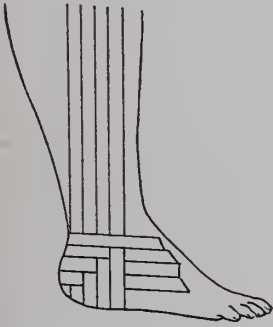


Fig. 1 shows technic for application of adhesive plaster.

The most brilliant results I have had have been in young women who have had a dancing engagement for the evening. This incentive kept them walking until the pain disappeared, then they danced all the evening. I once strapped a badly sprained ankle in the morning for a professional dancer in vaudeville, and she put on her regular performance on the stage that evening.

I suffered a severe sprain while out fishing in a mountain stream, eight miles by trail from my automobile. The first mile with the aid of a stick was excruciatingly painful. The second mile was easier, and the third caused only a slight limp. The last four miles were accomplished without discomfort. Then I drove the car a hundred and fifty miles home. All swelling, all pain had disappeared.

The model will show the dressing better than I can describe it. Note that the strips *do not encircle* the ankle. That is the commonest mistake I have

seen. Such encircling strapping impedes return circulation and swelling of the ankle and foot will persist with accompanying pain (fig. 1).

Apply the straps under tension, with the foot held at right angles to the leg and avoid wrinkles. Extend the straps three-fourths of the way to the knee. Four or five straps will suffice. Finally, a circular gauze bandage is applied, to be worn only until the plaster has adhered well, then it should be removed. Obtain active cooperation of your patient, apply the dressing as described, and the patient will recover in one to three days, not weeks or months.

TREATMENT OF HALLUX VALGUS*

WALTER KELTON, M.D.

SEATTLE, WASH.

I can think of no more practical subject to present to an audience composed largely of men in general practice than the subject of hallux valgus. No doubt most of you have dealt with this problem and have followed one of the more generally accepted operative procedures. Some of you have told me that you have tried one type and, failing to get satisfactory results either for the patient or yourselves, tried another well accepted method and still another, with similar results. In all of these operative procedures statistics show a far lesser percentage of gratifying results than are obtained in other fields of surgery.

Sixty or eighty different types of operation for this condition have been presented in the literature and no doubt many others have been devised but not recorded. When we find almost as many types of operation for a given surgical condition as there are patients suffering from the malady, it seems logical to conclude there must be something wrong; that we have not yet arrived at a sound solution to the problem.

In any surgical undertaking we should strive always to restore structures as nearly as possible to their normal anatomic relation and to preserve physiologic function. If we remember this fundamental rule, we need not wonder at the high percentage of fair or poor results obtained in the operations commonly used, for we cannot expect to restore adequate function when we destroy all normal anatomic relations.

Any operation for hallux valgus which calls for resection of the head of the metatarsal or of a small portion, or the entire proximal phalanx, clearly violates this rule. In such operation we abandon the

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idea of restoration of anatomic relation and it naturally follows that there can be no hope of normal physiologic function.

Hamsa¹ has compiled the following illuminating statistical review of a few selected types of operation.

Operator	Number Cases	Good Per cent	Fair Per cent	Poor Per cent
Silver	178	57	22	21
Mayo	126	61	30	9
McBride	14	36	50	14
Brandes	21	19	48	33

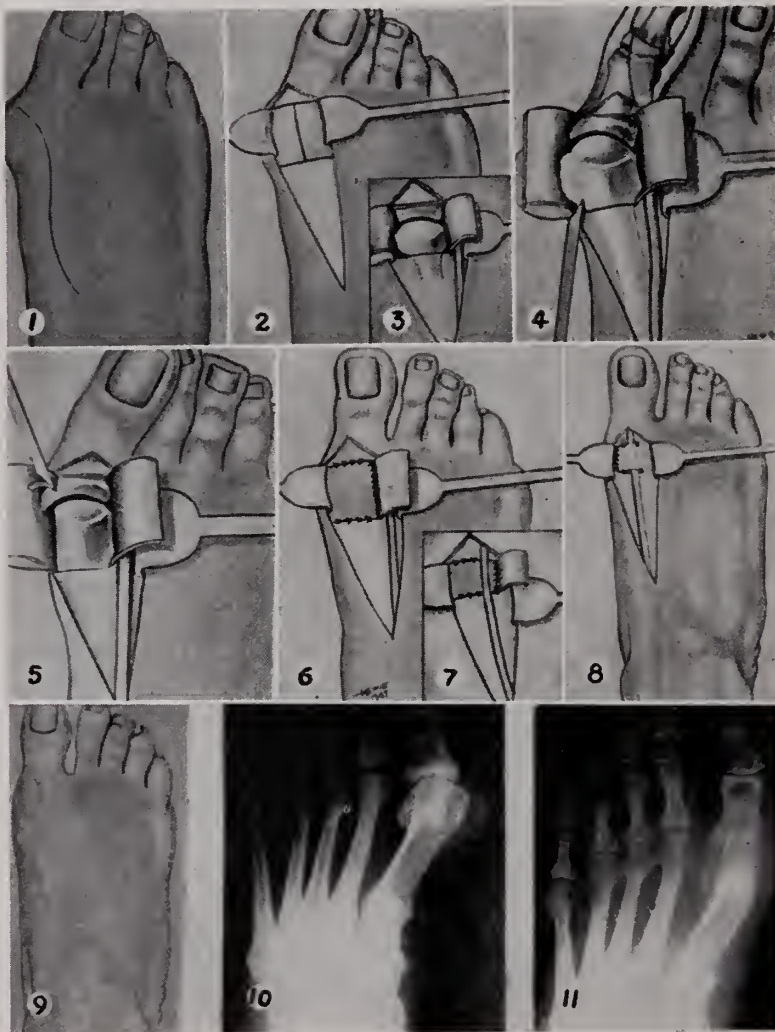
Having had an early experience in compiling statistical data and later having observed these statistics in a well known surgical text book, it has been my custom to deduct about 10 per cent from the column designated as good and place this number over in column 2 labeled fair, and about the same proportion from column labeled fair to column labeled poor. Such procedure does not necessarily reflect upon the author because his enthusiasm, plus the gratitude of his patient for even slight improvement of his disabling condition, makes statistics seem more or less as given. We must remember, too, that the above are statistics from the masters, originators of the plan, operating always under ideal conditions. In the hands of the average doctor, operating under less favorable circumstances and trying to carry out a plan which is clear in the mind of its author, we have to transfer quite a few more cases from column 1 to column 2, and from column 2 to column 3. Thus, our statistics would be even far less favorable than the quite unsatisfactory table furnished by Hamsa.

In other surgical undertakings a higher percentage of favorable results is obtained than even that presented by those best qualified in this field and certainly a far higher percentage of gratifying results than those which now obtain in the hands of the general practitioner.

The case I am presenting is that of a man who sustained a severe trauma over the base of the great

toe. He had had a large bunion of years standing. A hematoma developed, broke down and a rather severe infection followed. When it was considered safe, operation was done according to the method of Levine².

This operation consists of an "S" shaped incision as shown in figure 1. The bursa is next partially dissected downward, exposing the joint capsule. An "H" shaped incision is made in the capsule as shown in figures 2 and 3. This exposes the exostoses which are chiseled away as shown in figures 4 and 5. The capsule is then imbricated, figure 6, the tendon in its sheath translocated as in figure 7,



Figs. 1-9 show steps of Levine operation.

Figs. 10-11 show condition before and after operation.

and the remaining portion of redundant flap sutured over as in figure 8. Completed operation in figure 9.

The roentgenograms (figs. 10-11) show the condition before and after operation. The one taken after operation shows normal contour of the foot with the toe in normal position as in any normal foot and with perfect function.

Because of the trauma to structures, plus prolonged infection, the operation was more difficult

1. Hamsa, W. R.: Hallux Valgus, Study of End Results of 339 Bunionectomies. Nebraska M. J., 22:225-229, June, 1937.

2. Levine, M. A.: Operative Technique for Hallux Valgus. J. Bone & Joint Surg., 20:923-925, Oct., 1938.

than would be encountered in a case not so involved, but in spite of this handicap this is the most satisfying result I have ever had for the condition of hallux valgus.

Since this operation restores practically normal anatomic relations, it follows that physiologic function is preserved, and with the use of this procedure I believe the statistics of Hamsa will be markedly improved upon. I think Levine has made a valuable contribution and I predict that his operation will become widely accepted.

TREATMENT OF SUPPURATIVE ARTHRITIS*

DARRELL G. LEAVITT, M.D.

SEATTLE, WASH.

Discussion of suppurative arthritis is especially suited for a gathering of this sort. A consideration of the presence of pyogenic arthritis should be entertained much more frequently in making a differential diagnosis of acute infectious joint disturbances than it is at the present time. I am, therefore, very desirous of leaving with you certain facts which will cause you to remember that suppurative arthritis is a surgical emergency, the presence of which must be excluded whenever acute rheumatic fever or other acute infectious joint disturbances appear.

Why is it necessary for us to consider acute suppurative arthritis in our differential diagnosis? The answer is obvious, if we remember that it is a surgical emergency. This might be amplified by saying that it may be a medical emergency, since suppurative arthritis is not always treated by operation. The orthopedic surgeon who deals with acute osteomyelitis, and who through his training thinks more frequently of the possibility of bone and joint involvement, finds a differential diagnosis of acute suppurative arthritis much easier.

If men in general practice had the privilege of seeing children with ankylosed hips or knee joints, often in a position of deformity, sometimes with the presence of ankylosis and destruction of both hip joints simultaneously, wherein the early diagnosis was acute rheumatic fever, nothing further would need to be said about the necessity for ruling out acute suppurative arthritis before we make a definite diagnosis of acute rheumatic fever, even when multiple joints are involved. Do not delay in making a diagnosis until either fatality may supervene or the joint is completely destroyed. In the few slides which I will show at the conclusion of this talk I will demonstrate in a general way the ad-

vantage of early versus late treatment in acute suppurative arthritis with reference to the residual joint pathology.

A simple classification of acute suppurative arthritis is all that should be discussed. There are two main types: primary and secondary.

1. *Primary acute suppurative arthritis* is always hematogenous. It occurs much more frequently in adults than does acute osteomyelitis which is almost never seen in adults. The streptococcus is the usual cause, but occasionally we see staphylococcal infections with generalized sepsis causing a primary suppurative arthritis. In a child the staphylococcus causes most cases of acute osteomyelitis, the streptococcus causing most cases of acute suppurative arthritis and acute suppurative bursitis. The gonococcal arthritis in about 20 per cent of cases takes a suppurative form which should in no way be considered other than a destructive type of infection. There are numerous other organisms which occasionally cause suppurative arthritis, but we often see a nonsuppurative infectious monarticular arthritis followed by rapid cartilage and joint destruction, occurring after operations where the initial focus is disturbed. Here the advisability of surgical drainage is impossible to determine, although ankylosis occurs rapidly without drainage.

2. *Secondary acute suppurative arthritis* occurs in approximately 10 per cent of acute osteomyelitis patients, especially in the hip and occasionally in the knee joints, where the epiphyseal plate which ordinarily stops the spread of osteomyelitis lies within, or partially within the capsule of the joint. The preventive treatment in osteomyelitis is comparatively early surgery or surgical drainage. I will demonstrate by one slide the advantage of early diagnosis of suppurative arthritis accompanying acute osteomyelitis and early drainage, wherein over 50 per cent of the motion of the knee joint was retained, even though permanent drainage was established into this knee joint for a period of approximately six weeks, and plaster immobilization was continued for seven months.

The *second type* of secondary suppurative arthritis results from penetrating wounds. A number of the interns of King County Hospital and some of the staff men will remember a man whom I treated about seven or eight years ago who had an axe wound of the knee joint, from which pus was freely flowing. He was turned over to the orthopedic department six or seven days after the injury. After six or eight weeks this man died from metastatic abscesses and rupture of the internal iliac artery, even though drainage had apparently controlled the local condition in the knee joint. Suppuration

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probably remained too long before drainage was established.

The differential diagnosis of penetrating wounds in the knee joint or other joints is not always easy. I have had suppurative arthritis of the elbow joint in a boy from the use of a Kirschner wire traction in the olecranon which required incision and drainage. Prepatellar suppurative bursitis and cellulitis are often confused with suppurative arthritis of the knee joint, but if the wound has not penetrated through the aponeurosis, extension into the knee joint almost never occurs. It is quite reprehensible, therefore, to incise the knee joint through an infected superficial abscess, thereby contaminating the knee. In prepatellar bursitis the locality of the swelling and the lack of effusion into the suprapatellar pouch is almost always diagnostic.

A few remarks about the *treatment* of acute suppurative arthritis are timely. The advantage of early diagnosis often changes the requirements of treatment. Before the synovial membrane has been destroyed and cartilage has become lysed by exotoxins and endotoxins, often the use of sulfapyridine or sulfanilamide with aspiration once or more, or irrigation with normal saline solution through large needles, may completely cure the streptococcal arthritis without resulting disability. The use of neoarsphenamine, immobilization, aspiration and irrigation in a sufficiently early case may also cure a staphylococcal suppurative arthritis. Roentgen therapy should be considered in the treatment of acute infectious joint disturbances, also the use of the new drug sulfamethylthiazol in staphylococcal infections, replacing sulfapyridine or possibly neoarsphenamine. Hyperthermia, sulfapyridine and traction or immobilization, if given early, should cure most cases of acute suppurative arthritis from the gonococcus. About 15 per cent are not relieved and some of these still may require incision and drainage.

Acute suppurative arthritis, after a certain stage, where the exudate becomes thick, and we know that destruction has begun in the joint, is usually best treated by incision and drainage and complete immobilization until the general reaction has subsided. This may often be accompanied by adhesive traction within the cast. In my experience on numerous occasions, it has been demonstrated clearly that the most important factor after drainage, as regards the saving of life, joint function and comfort, has been complete continuous uninterrupted immobilization with plaster. Willem's method of incision and early active motion in virulent infections does not give the individual the greatest opportunity for life. On more than one occasion I have

found it necessary to cease aspiration and traction, to widely incise and pack a joint with vaseline gauze, to apply a hip spica cast in treatment of suppurative arthritis of the knee, and have noticed that the temperature falls to normal the next day. In these individuals treated early, at least 50 per cent of the normal motion can be expected, and if the incision and drainage is carried out early enough, possibly 100 per cent.

It has been my experience that vaseline gauze packed into a joint does not injure it seriously. It does not of itself interfere with recovery of motion, and affords better drainage than suturing drains to the edge of the synovial membrane and then letting the wound fall together. I have been surprised on numerous occasions, after I have told parents there was no hope of saving the motion in the joint, and have incised it widely and packed it with vaseline gauze expecting to see it ankylose, leaving the plaster on in one instance for seven months, and then on removing the plaster to find that there was motion in the knee joint and that about 50 per cent of the motion was retained in this knee which might have been lost, if wide open drainage and packing with vaseline gauze had not been done.

As soon as the general reaction subsides and the pain quiets down in a joint, complete plaster immobilization can be dispensed with and traction maintained, and motion begun gradually. However, unless the infection is low in virulence, the enforcement of immediate motion in a painful joint will be one sure means of delaying the return of function and assisting in the production of complete ankylosis.

The resistance of the average joint to infection is as great probably as the peritoneal cavity, but the resulting disability is more greatly advertised because of the disturbance of locomotion. The disturbance of locomotion of the gastrointestinal tract is apparently a more acceptable or compatible state to the individual than of the skeletal joints.

After removal of the semilunar cartilage in the presence of distention of the joint with pain, moderate rise in fever, but with a low leukocyte or low differential count, a postoperative synovitis without serious or surgical infection may be the correct diagnosis. The presence of leukocytosis which increases with effusion, pain and fever suggests the necessity of aspiration, smear and culture. Subcutaneous infection after cartilage removal should not be carried into the joint.

In conclusion, let us not forget the possibility of early diagnosis by clinical examination, aspiration, smear and other examination of fluid, and chiefly by keeping in mind the possibility of acute sup-

purative arthritis in order that we may be assisted in our treatment and in the preservation of function and of life. Finger point tenderness is usually over the joint or its synovial reflections, not the metaphysis. Any motion of the joint usually causes severe pain and spasm. Let us thereby try to rule out the presence of intraarticular suppuration early.

1011 Summit Ave.

DIAGNOSIS AND TREATMENT OF ACUTE OSTEOMYELITIS*

JOHN F. LECOCQ, M.D.

SEATTLE, WASH.

It is with some hesitation that this old, old subject is being presented. However, my experiences over a period of several years have convinced me that all of us are not as alert as we should be in making an early diagnosis of this condition, and as so often is the case, an early diagnosis is of great importance to minimize the ravages of this disease. The hope that my remarks may help others in recognizing these cases is one reason for this discussion; the other is to present some of the more recent progress made in the treatment of acute osteomyelitis, particularly with reference to the use of neoarsphenamine and other drugs.

This discussion will be limited to acute hematogenous osteomyelitis. The causative organisms are generally staphylococcus albus or aureus; the latter may be of the hemolytic type which makes the prognosis more grave. Less frequently the streptococcus aerogenous capsulatus, pneumococcus, and other organisms may be the offenders.

The disease is primarily limited to children, most frequently the cases occurring between the ages of three and ten. Primary acute hematogenous osteomyelitis in the adult occurs but very rarely. The anatomic reason that the occurrence is more frequent in childhood is because of the large venous channels in the long bones adjacent to the epiphyses. Bacteria, getting into the blood stream, easily settle out in these regions and start housekeeping. Furthermore, it has also been shown experimentally that the region of the shaft of a long bone next to the epiphyseal line is least active in phagocytosis, compared to the medulla or the epiphyseal portion of the bone. These two factors are most prominent in the regions of most active growth. Hence, acute osteomyelitis occurs most frequently in the upper end of the tibia and the lower end of the femur.

History. Frequently there is a history obtainable of some upper respiratory infection, furunculosis,

etc. In these conditions it is known that a symptomless bacteriemia frequently exists. Then the child may have a fall or a blow, and an epiphyseal sprain with a localized region of decreased resistance is produced which favors the localization of the organisms. In about 25 per cent of cases a definite history of trauma, followed within two or three days by the acute onset of symptoms, is obtainable.

The first local symptoms, as a rule, are very sudden onset of severe pain in the affected parts, attended with a high temperature which may be up to 104° or 105°. These two points are of great diagnostic value in immediately recognizing the condition. Severe toxemia may soon supervene, depending on the severity of the infection, and thus mask the local symptoms.

In a child who has this sudden onset with pain in one or more of the long bones near the epiphyses, or in the flat bones accompanied with a high temperature, it is important if a history can be obtained that he had an upper respiratory infection, furunculosis or other foci which might have produced the original bacteriemia. If the infection is overwhelming, the local symptoms are soon obscured by the toxemia and delirium; coma and hyperpyrexia supervene and the child soon succumbs. Most of these children in the acute stage of the disease will show an apprehensive look, a very flushed face, be very restless; headache is frequently present and there is generally vomiting and marked dehydration. Leukocytosis up to 15,000 or 30,000 or higher with a very high polymorphonuclear count is generally present, but if the infection is overwhelming, the toxemia may be sufficient to produce a marked depression of the leukocytic count.

In physical findings the most important are the definitely localized tender points. These are best demonstrated by making equal pressure with the rubber end of a pencil. There is generally no difficulty in finding the area or areas of localized tenderness, if an acute osteomyelitis exists. Localized swelling or redness is not present until several days later, and if such is present and symptoms have been present for only a period of hours or a day, the condition is more likely to be a cellulitis, but in this latter condition there is not the intense pain which is present in an osteomyelitis.

In acute rheumatic fever there is swelling of the joints and more than one joint is involved. However, it is peculiar how many children have been seen on our service in whom a diagnosis of rheumatism was made and this diagnosis was clung to until obvious swelling and an abscess presented it-

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self. Acute pyogenic arthritis should not be confused with acute osteomyelitis. In the former, the least amount of motion of the joint produces severe pain and marked muscle spasm is also present.

From the standpoint of diagnosis, the radiographs are of absolutely no assistance because radiographic findings are negative for at least eight to twelve days following the onset of the disease. The diagnosis must be made from the clinical findings.

Pathology. As has been stated before, the infection starts in the medullary portion of the bone adjacent to the epiphyseal line. As the focus extends, pus will travel along the Haversian canals, come beneath the periosteum and strip up the same. With considerable tension of the involved area, the infection will also travel down the medullary canal of the bone, and in the really acute cases there may be a complete involvement of the whole shaft of the bone, and the periosteum stripped from all of the bone by the subperiosteal pus. Too frequently the operating surgeon may recognize the condition as an osteomyelitis. At time of operation, when cutting through the periosteum, he finds pus, and then is led into the false belief that all that exists is a subperiosteal abscess. However, if it is remembered that the pathology begins in the medullary portion of the bone, it is then obvious that the subperiosteal abscess is simply a secondary manifestation. Hence, to obtain adequate drainage a window should be made through the cortex.

Treatment. The treatment of choice is early surgery to drain the involved area or areas. It is my belief that it is against surgical principles to allow these cases to go on and localize with resulting more destruction of the shaft of the bone and then consequently prolonged convalescence. If these cases are operated upon early, preferably within a twenty-four hour period, secondary operations in our experience have rarely been necessary. Unfortunately most of these cases come in after they have been ill several days and then numerous secondary operations are necessary for the removal of sequestra, etc.

When the individual is admitted to the hospital he is brought immediately up to the optimum condition after the diagnosis has been made. These cases are all markedly dehydrated and, therefore, intravenous saline and blood transfusions should be given immediately. Within a few hours the focus or foci should be opened by a moderate sized window through the cortex of the bone in the region of the maximum tenderness and close to the epiphyseal line. Care must be taken not to injure the epiphyseal line which would cause growth disturbance.

This window in the cortex is sufficient to decompress the bone. Extensive chiseling out of the bone, curetting, etc., must be meticulously avoided. The wound is then packed wide open with vaseline gauze and the part immobilized in plaster. This is not disturbed for several weeks as long as the temperature reaction and general reaction of the patient are progressively better.

At the time the patient is on the operating table, a blood culture is made. If the pus present has the characteristics of a staphylococcic infection, the patient is immediately given neoarsphenamine intravenously, the dosage depending on the age of the child. If the blood culture is positive the next day, the neoarsphenamine is repeated, and after that it is given every third day until the blood cultures are negative. With this use of neoarsphenamine the mortality rate has been reduced in our series of cases from 86 to 23 per cent in the cases that had positive staphylococcic blood stream infections, in addition to their acute hematogenous osteomyelitis.

Recently Osgood at University of Oregon Medical School has demonstrated with his bone marrow cultures that neoarsphenamine is effective in staphylococcic infections. Six parts in one million were effective in producing negative cultures in most of the experiments. This would be equivalent to an adult dosage of 0.45 grams. It was also found by Osgood that neoarsphenamine is much more effective than staphylococcic antiserum, sulfanilamide or sulfapyridine.

My brother Edward and I started using neoarsphenamine about eight years ago. At that time we had a child at Harborview Hospital with an acute osteomyelitis of the femur and staphylococcic blood stream infection. She showed many subcutaneous staphylococcic abscesses. In discussing this case with Dr. Norman Murphy of this city, it was suggested by him in view of the fact that neoarsphenamine had been used for many years by the urologists in controlling staphylococcic pyelitis, that this be tried on this case. The child responded very well to the use of the drug, and is well today. Following that, many cases were treated in a similar manner at the Children's Orthopedic Hospital and in our private practice with equally good results.

Lately a new drug, sulfamethylthiazol, which is related to the other sulfanilamides, has been introduced at some of the medical centers for use in treatment of staphylococcic septicemia. It is too early to judge how effective this drug will be but reports are promising. It will probably be less toxic and safer to use than neoarsphenamine and hence will probably be of great benefit.

GASTROJEJUNOCOLIC FISTULA*

REPORT OF CASE

PAUL C. GUNBY, M.D.

SEATTLE, WASH.

Mr. G. first came under my observation four and a half years ago, when he was 39 years of age. For fifteen years he had indigestion, the symptoms classical for the presence of duodenal ulcer. Increased severity of the discomfort had disabled him for six months. Hospitalization and adequate medical care gave some, but not complete, relief. During this time he had lost fifteen pounds.

Total gastric acidity ranged from 75 to 80 per cent. Gastric contents were positive for blood. A constant irregularity of the duodenal cap appeared in the roentgenogram and after six hours 40 per cent gastric retention. Blood counts were normal.

At operation four and a half years ago an active ulcer was found on the anterior duodenal wall near the pylorus with surrounding duodenitis and much contraction. No other pathology was encountered. The ulcer was enfolded and a posterior, no loop, all catgut gastrojejunostomy was done with the aid of clamps. The appendix was removed secondarily. A good result was anticipated, particularly because of the degree of pyloric obstruction.

For four years the relief was complete but a year ago he began to experience vague lower left abdominal dis-

comfort of 0.5 cm., with no evidence of the former ulcer.

The gastrojejunostomy was taken down and approximately one half of the stomach resected. The jejunal defect was closed transversely and the colic fistula repaired. An anterior, short loop, end to side, Polya-Moynihan anastomosis reestablished continuity.

The patient left the hospital on the tenth postoperative day after a convalescence marred only by a moderately severe respiratory infection. Today he weighs 170 pounds, his optimum. He observes no dietary restrictions and has no discomfort. In a recent gastric roentgenogram the stoma was seen to function well (fig. 3).

Just as certainly as his original symptoms were those of duodenal ulcer, so was the recurrence of discomfort typical of gastrojejunal mischief. The picture was so stereotyped that I was reluctant to hear the roentgen report. The first procedure for which I was responsible had certainly produced the second ulcer. The left sided and lower abdominal pain, so differently placed than with the first ulcer and the more irregular time relationship to meals, indicated at once the gastrojejunostomy.

The incidence of this mishap has been variously

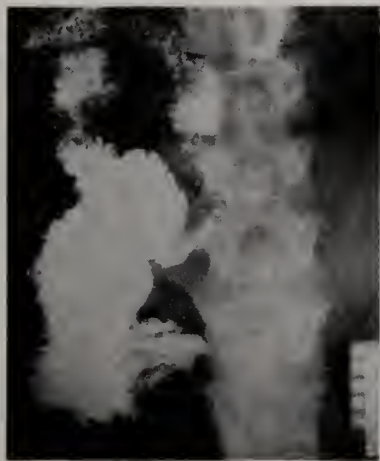


Fig. 1.



Fig. 2.



Fig. 3.

Fig. 1. Malfunction of gastrojejunostomy. Trickle of barium through pylorus. Gastritis, jejunitis.

Fig. 2. Filling defect in transverse colon adjacent to anastomosis.

Fig. 3. Stomach after resection. Large satisfactory stoma. Afferent and efferent jejunal loops well delineated.

comfort a short time after meals. Six weeks before the second examination this discomfort had become pain which was often quite severe across the whole lower abdomen. Although constipation was obstinate, he had never vomited. He had lost ten pounds in weight through this period.

These were the roentgen findings: "nonfunctioning gastrojejunostomy; large gastrojejunal ulcer with organic colitis in the transverse colon four inches proximal to the splenic flexure. Ulcer perforating and threatening fistulous communication with the colon. Gastritis and jejunitis" (figs. 1 and 2).

The hemoglobin was reduced to 65 per cent; occult blood was present in the stool.

After a preliminary transfusion, operation was done seven months ago. At the right border of the anastomosis was a large perforation with the ulcer base confined within the limits of the transverse mesocolon. In the overlying transverse colon was a perforation 3 mm. in diameter, which was almost occluded with thickened, pouting colonic mucosa. The pylorus was soft and contracted to a diam-

placed from 2 to 30 per cent. The number of misfortunes must be considerable. The use of clamps, the employment of nonabsorbable suture material and faulty hemostasis are among causes assigned but not proved. Some patients after gastrojejunostomy for duodenal ulcer are not made relatively eupeptic; their relief is never complete; these must be the ones that may develop a secondary ulcer.

Sacrifice of the redundant jejunal mucosa in making the anastomosis may result in a faulty union of gastric and jejunal mucosa; a fibrous union cannot be very resistant to gastric juice. I believe that these factors play some part in the development of a "man made" ulcer. Remember that a gastrojejunostomy may present you with a new for an old ulcer.

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ENTEROVESICAL FISTULA*

R. D. FORBES, M.D.

SEATTLE, WASH.

Although instances of enterovesical fistula have been recorded as far back as the second century, it is only in recent years that their nature has been fully understood. The rarity is best shown by the comparatively small number recorded from all sources to date. This is somewhat more than six hundred.

In *etiology* there is much variety but the five cases herein reported have been due to the commoner causes, three being the result of a regional ileitis and two of a sigmoidal diverticulitis. Cancer, of course, ranks high as a causative factor, and it is remarkable that in the World War six hundred eighty-seven wounds of the bladder were listed with no case of fistula. Also it is shown that pathologic conditions within the bladder seldom result in this condition. Diverticulitis of the sigmoid is particularly prone to perforate into the bladder and explains the high percentage, approximately 42 per cent in one series, due to this cause. When one considers that approximately 1 per cent of the general population are afflicted with diverticulosis and that approximately 17 per cent of these develop infection in a diverticulum, the frequency is easily explained.

Whereas the *pathology* is dependent upon the original disease the general picture is that of a local peritonitis with secondary adhesions between the bowel and bladder. With time, more structures may become adherent and an abscess may form. In the meantime the wall of the bladder becomes reddened and edematous and finally ulceration precedes perforation. The cystoscopic picture may even suggest malignancy.

Symptomology. When definitely established, this must have the passage of gas or intestinal contents as a principal symptom. Sometimes urine will be passed by the bowel, more frequently with obstruction in the urethra. In the early stages of development, however, the symptoms are vague and consist in attacks of pain in the lower abdomen with varying degrees of tenderness on either side of the pubes. Urgency and frequency with chilly sensations are common. It may be weeks, months or years after these early attacks before the fistula is definitely established. There is naturally a general deterioration of health and the unpleasant odor results in mental anxiety, and it is remarkable that patients have lived for over twenty years with this condition.

Diagnosis depends upon the history and presence of recognizable elements of food in the urine. Small seeds are particularly prone to find their way through the fistula. Passage of gas alone per urethra may be due to a variety of causes and its connection with an established fistula will depend upon a detailed and complete investigation. It is sometimes difficult to locate the portion of intestine involved, and when a small intestinal fistula exists this difficulty may be great.

Prognosis naturally depends to some extent upon the nature of the primary disease but spontaneous healing under any circumstances is rare. Medical treatment is, therefore, palliative and surgical care alone gives promise of cure. The mortality naturally varies with the nature and extent of the disease but, when operation is done at a reasonably early stage, mortality is not high. In the cases here recorded there has been one fatality due to a too radical one-stage procedure.

Unless the fistula is a small one without complicating circumstances, a two-stage procedure is invariably indicated. At the first-stage a completely defunctioning procedure is usually advisable, and no contents of the involved bowel will then enter the fistula. After a period varying from three to twelve months the situation will have greatly changed. In all probability the tract will have closed, edema will have subsided and the inflammatory lesion of the bowel will have largely disappeared. Separation or resection can be carried out with good promise of cure.

CASE REPORTS

Case 1. Female, age 36. In 1930 had ileocolostomy performed for obstruction in the ileocecal region, thought to be tuberculosis. Six years later seeds were passed with the urine. Later small quantities of gas and liquid stools were occasionally voided. Operation: Transection of ileum proximal to lesion. Ileosigmoidostomy. Fistula has remained closed although a small sinus of the abdominal wall leads down to the primary disease in the ileum. Resection in this case was not possible for technical reasons but would have been the ideal procedure.

Case 2. Male, 24. Suffering from Hodgkin's disease for three years with poor prognosis for cure. In June, 1936, developed an ileovesical fistula with passage of gas and liquid fecal matter with the urine. In August, 1936, about eighteen inches of the lower ileum was resected and the bladder opening closed. He died five days later from general peritonitis. Ileotransverse colostomy after transection of the ileum should have been the ideal operation for this man, and would have given sufficient relief until his inevitable demise from Hodgkin's disease.

Case 3. Male, 20. Generally ill for three years, with bladder symptoms for two months. Passage of gas and liquid fecal matter with urine for one month. In 1936 ileotransverse colostomy after transection of the ileum eight inches proximal to the fistula. The lower loop was brought out through a separate incision and irrigation carried out. The disease in this loop was typical of regional

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ileitis and involved approximately eight inches of the bowel, including the fistulous area. The fistula closed within a few days and he has remained well ever since. This patient has been advised to have a resection of the diseased ileum.

Case 4. Male, 50. September, 1938, acute onset with fever and chills. Gas and intestinal contents freely passed with the urine. October, 1938, transverse colostomy with sufficient spur to prevent feces passing into lower colon. A mass typical of diverticulitis was adherent to the fundus of the bladder. September, 1939, laparotomy showed the mass to have become greatly reduced in size, the fistula having closed shortly after making the colostomy. The sigmoid and bladder were now separated and the opening of the diverticulum easily closed. In November, 1939, the colostomy was closed. Apparent cure.

Case 5. Male, 58. Passage of gas with occasional small seeds or other fecal matter for past three years. For three months has had bladder symptoms with urgency and frequency of micturition. March, 1939, laparotomy. Mass in sigmoid typical of diverticulitis adherent to fundus of bladder. Due to congenital defect in the transverse colon which prevented colostomy, a cecostomy was done. Irrigation of the colon through the cecostomy opening was carried out daily and the fistula closed in about four weeks.

In September, 1939, laparotomy disclosed a reduced mass in the sigmoid but with, however, a definite infiltration of the bowel still present in the region of the fistula. The sigmoid was separated from the bladder and an effort made to close the opening in the diverticulum. The closed opening was supported by an epiploic appendage. A small grid-iron incision was made over the sigmoid and a drain carried to the closed diverticulum. About eight days later a fecal discharge came through this drainage tract and has since continued, proving our suspicion that the bowel was not healthy and the sutures would not hold. The bladder fistula, however, remains closed.

DISCUSSION

In enterovesical fistulas which result from inflammatory lesions of the lower ileum or the sigmoid, indications are for some defunctioning procedure as a primary operation. When the fistula has closed and the inflammatory condition of the bowel has subsided, a second operation may be done, either to remove the diseased segment or to close the fistulous opening. This period is variable and may occupy several months, sometimes more than a year.

Case 1 illustrates importance of removing the disease as she still has activity in the unremoved segment.

Case 2 shows the importance of a two-stage operation, or of a temporizing procedure such as ileo-transverse colostomy. A primary resection of a diseased bowel is accompanied by a high mortality.

Case 3 illustrates the success that followed a stage procedure. The second stage has not yet been done.

Case 4 illustrates the success of the defunctioning procedure in a seriously ill man. The inflammatory reaction in the sigmoid had barely subsided sufficiently in one year to permit closure of the diverticular opening.

Case 5 illustrates the inadequacy of a cecostomy as compared with a complete colostomy. The sub-

sidence of inflammatory action in the sigmoid after six months was not sufficient to permit a complete closure of the diverticulum. The fistula took much longer to close, and after one year the diverticulitis with a fistulous tract externally is still present.

SLIDING HERNIA

O. F. LAMSON, M.D.

SEATTLE, WASH.

Sliding hernia is a condition in which the extra-peritoneal portion of the colon herniates through the internal ring, drawing down a part of its mesentery. It was first described by Scarpa (1747-1832). In most of the cases of sliding hernia, the ring is unusually large. Due to this fact, it is difficult to keep the hernia reduced by external appliances. It is a rare type of hernia. It has been estimated that it constitutes about two per cent of all inguinal hernias.



Fig. 1. Photograph from lateral position shows enormous size of hernia.

In some of these cases the hernial opening is so large that we might speak of it as a giving away of the floor of the abdomen at the site of the inguinal canal. Recurrences are more likely to occur following operation in this type of hernia than in any other, varying from 15 to 50 per cent, as reported by various observers. Due to the extensive weakness in the abdominal wall in the region of the inguinal canal, these hernias often become enormous in size. Given a weakness in this region, trauma, which throws a great strain on the abdominal wall, is likely to result in producing a large hernia.

The operative hazard in sliding hernia is greater than in the ordinary type of hernia, because the bowel may extrude through the hernial ring and become adherent. It may, therefore, be mistaken for the hernial sac and accidentally be opened with consequent soiling of the peritoneal cavity with fecal contents.

Recurrence following operation is probably more frequent in this type of hernia than in any other because of the general weakness in the abdominal wall at its site. Fascial repair is especially indicated in sliding hernia.

CASE REPORTS

Case 1. The patient was 51 years of age and gave a history of having had a large inguinal hernia for the past thirty years (fig. 1). He wore a truss for about ten years



Fig. 2. Shows type of support used to give relief from distress caused by weight of hernia.

when it first occurred. Afterward, he could not secure a truss which would keep the hernia reduced. Since then he has worn a support (fig. 2). When I saw him, he had not been able to reduce the hernia for seven years.

At the time of development of the hernia, the patient was a circus rider and was looping the loop on a bicycle and fell when he was going at quite a rapid speed. He fell about twenty-five feet. Undoubtedly he had a congenital weakness and the sudden strain on his abdomen caused the hernia to develop.

He was a poor surgical risk and operation was not encouraged. As he had gotten along for so many years with the hernia fairly comfortably, I hesitated to subject him in his condition to an operation. However, he insisted that he had so much distress recently that he wished to have an effort made to give him relief. He was a chronic syphilitic and was very much overweight. He had hypertension and premature arteriosclerosis. He was told that before he was operated upon it would be necessary for him to reduce his weight thirty to forty pounds. In nine months he succeeded in taking off thirty-six pounds. He was given syphilitic treatment.

He was operated on March 23, 1936, the usual incision for repair of inguinal hernia being used. The cord was very densely adherent to the sac, and in freeing it the circulation to the testicle was so impaired that it seemed best to remove it on that side. The hernia was then repaired in the usual manner. Fascia was taken from the left thigh and this was used to reinforce the repair after the method of Gallie.

The hernial sac contained the cecum, ascending colon, about twenty feet of small intestine and a large part of the omentum. The neck was about three inches in diameter. He recovered from the anesthetic very nicely, but showed

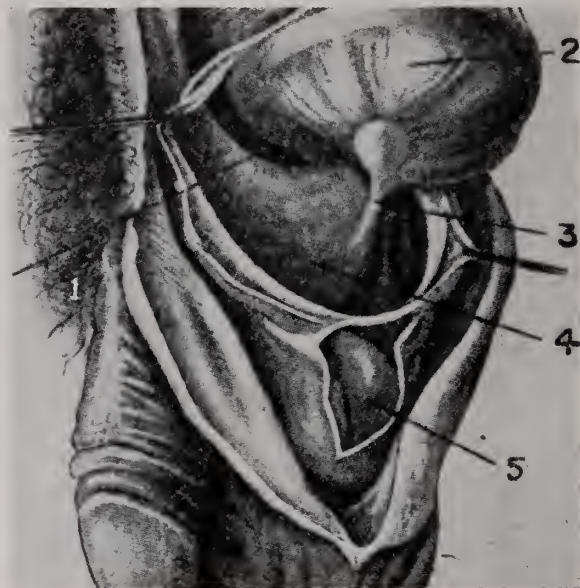


Fig. 3. Sigmoid colon adherent to back of sac (4) of left inguinal hernia. Colon (2) has slid down with its mesentery. (3). Neck of sac (1) is large. Separate tunica vaginalis and testis (5) are seen below sac. (Scarpa). From Hutchinson's Treatise on Hernia.



Fig. 3. McArthur Method of using strips of fascia from external oblique muscle to reinforce closure. Fascial strips are placed deep enough to include conjoined tendon and transverse fascia.

some evidence of cardiac failure about the third day. His bowels and kidneys functioned well. On the sixth day he died rather suddenly. Postmortem examination showed myocarditis to be the chief cause of death. On account of his sudden death an embolism was suspected, but post-mortem examination did not reveal one.

He was a poor risk, as any patient with a hernia as large as he had carries a rather high mortality, largely because of the change in the intraabdominal pressure following repair of hernia, and besides that he was a syphilitic and an arteriosclerotic.

Case 2. Another case which recently came under my care was a man 71 years of age, with a large hernia in the left inguinal region. It was a large scrotal hernia which came on five years before he was seen. He was unable to keep it reduced with a truss and it caused him a great deal of annoyance. At operation, June 13, 1939, the bowel could be felt presenting through the peritoneum and, in order to avoid injuring it, the peritoneum was opened well away from it. In this case a small part of the sigmoid had herniated through the inguinal ring (fig. 3).

The colon was replaced in the abdominal cavity and the dilated peritoneum, which formed a rather indefinite sac, was excised and the opening in it closed. The transverse fascia was sutured to poupart ligament with heavy silk sutures. Fascial strips were taken from the external oblique muscle to be used in repairing the hernia, which method was first used by McArthur about thirty-five years ago. The external oblique muscle was then sutured to poupart ligament with heavy silk sutures and the cord transplanted. The fascial strips were then used to reinforce the closure (fig. 4). The fascial strips were placed deep enough to include the transverse fascia as well as the external oblique muscle. It has been over nine months since this operation and there has been no evidence of recurrence.

MILLER-ABBOTT INTESTINAL INTUBATION

EVALUATION IN TREATMENT OF INTESTINAL OBSTRUCTION*

JOHN DUNCAN, M.D.
SEATTLE, WASH.

The desirability of intubation of the bowel for experimental, diagnostic and therapeutic purposes has long been appreciated. Scheltema¹ in 1908 gave the first description of successful small intestinal intubation. By tedious efforts he succeeded in passing a tube of 3.8 mm. diameter well down into the small intestine, and remarked upon the possibilities for introduction of medicinal substances in cases of intestinal parasites and cholera infantum. Unaware of Scheltema's work, Einhorn² in 1919 described the use of an 8 mm. soft rubber tube with an attached perforated capsule for injection of fluids into the intestinal tract. In the following year Buckstein³ described the injection of barium through an intestinal tube for roentgen study of the small bowel.

In 1934 Miller and Abbott⁴, interested in the study of certain aspects of chemistry and physiology of the small bowel, reported the successful utilization of a double lumen tube, and were impressed with the relative ease of intubating any part of the small intestine. They stated its special virtues as lying in the fact that it had at its distal

end a collapsible rubber bag which when distended was carried rapidly down the small intestine by peristalsis, and, second, in the fact that the tube had two lumina, one for inflation and deflation of the rubber bag and the other for aspiration or injection.

It was most natural after the demonstration by Ward, Wangenstein and Paine of the value of intestinal decompression in the treatment of obstruction, that this long double lumen tube should be tried in such cases. Its value is becoming evident and it is another adjunct to the treatment of intestinal obstruction.

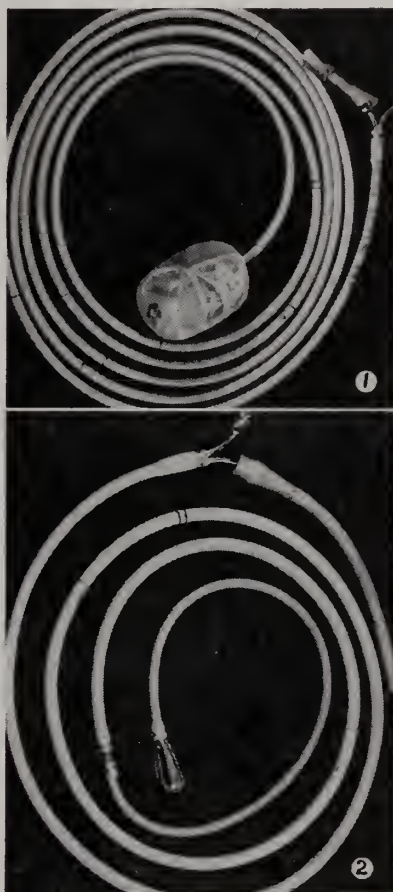


Fig. 1. Miller-Abbott Tube.

Fig. 2. Abbott-Rawson Tube.

The Miller-Abbott (fig. 1) tube is ten feet in length and with the diameter of a 16 French catheter. A rubber septum divides the tube into two lumina, one of which opens into a soft rubber balloon attached to the distal end of the tube, the other connecting with a fenestrated metal tip just beyond the balloon and used for aspiration or injection. The distance from the tip is marked at intervals on the tube.

Wilson⁵ has improvised a modification, consisting of three Sawyer duodenal tubes spliced together by two brass cannulas three-fourth-inch in length. A balloon having a capacity of 40 or 50 cc. is attached around the tube proximal to the openings in the tip. The balloon is inflated by means of another tube having a relatively thick wall and a lumen 1/64th-inch in diameter. The two tubes are loosely tied to-

*Read before Annual Meeting of Seattle Surgical Society, Seattle, Wash., Jan. 26-27, 1940.

1. Scheltema, G.: Arch Roent. Ray and Allied Phenomena, 13:144, 1908-1909.

2. Einhorn, M.: Intestinal Tube. New York M. J., 110: 456, Sept. 13, 1919.

3. Buckstein, J.: Intestinal Tube; its Significance and Applications. J. A. M. A., 74:664, March 6, 1920.

4. Miller, T. G. and Abbott, W. Q.: Intestinal Intubation. Practical Technique. Am. J. M. Sc., 187:595-599, May, 1934.

5. Wilson, D. M.: Intestinal Intubation; Studies in Acute and Subacute Obstruction of Small Intestine. Proc. Staff Meet., Mayo Clin., 13:666-671, Oct. 18, 1938.

gether with silk thread. Wilson has found this most satisfactory in intestinal intubation for obstruction. Still another type of double lumen tube, used for decompression and for feeding purposes through a recent gastroenterostomy, is the Abbott-Rawson tube (fig. 2).

Intestinal intubation is often a tedious procedure and requires patience and close observation. The following technic has proved satisfactory. The tube is lubricated and passed through the nose and esophagus into the stomach. The 45 cm. mark indicates roughly its arrival at the cardia, the 60 cm. mark the pylorus. The stomach contents are aspirated and gentle suction applied. During the course of the next twelve hours the tube is inserted one-half inch each thirty minutes, the patient lying on his right side. At the end of this time the position is noted with a portable fluoroscope or roentgen plate. If the tube is curling or directed away from the pylorus, it should be withdrawn two or three inches and again advanced. When the tube has passed into the duodenum the balloon is distended with 30 cc. of air. The tube is then advanced one inch every ten minutes. Usually the tube is carried rapidly down the intestinal tract to the point of obstruction, decompressing the bowel as it goes.

Effectiveness in decompression of obstructed intestine with the Miller-Abbott tube is demonstrated in the following brief case reports:

Case 1. A man, 57 years of age, was first seen on July 21, 1939, complaining of abdominal pain and increasing distention. During the previous week he had vomited on several occasions and enemas, effectual at first, had been without result for the past three days.

Physical examination revealed moderate dehydration and diffuse abdominal distention. The abdomen was silent and tender, particularly in the lower quadrants. Temperature 100°, r.b.c. 4,250,000; Hb. 86 per cent; w.b.c. 10,200 with 82 per cent polys.; 15 per cent lymphs., and 3 per cent monos. The blood chloride was 436 mg.

A flat plate of the abdomen showed distention of the small intestine with gas but no fluid levels. A diagnosis of an acute intestinal obstruction, cause unknown, was made. Gastric suction and parenteral feeding were instituted with no improvement. On the following day under spinal anesthetic, a gangrenous appendix was removed and adhesions about the terminal ileum were freed, releasing a complete obstruction. Two Penrose drains were inserted.

Postoperatively the patient failed to improve, with the distention becoming even more marked and rectal treatments were ineffectual. Three days after operation a Miller-Abbott tube was passed, entered the duodenum within eight hours and during the following day the distention subsided rapidly. Small feedings were given through the tube and were well tolerated. After the tube had been in place for six days the patient began to pass gas rectally and it was obvious that the obstruction had subsided. The patient continued to an uneventful recovery.

Case 2. A woman, aged 46, was admitted to King County Hospital September 24, 1939, with a history of abdominal cramps, nausea and vomiting, and increasing abdominal distention of three days duration. There had been no bowel

movement for four days prior to the onset of these symptoms. Past history was negative aside from a supravaginal hysterectomy five years before. The essential physical finding was a tense, diffusely tender and tympanitic abdomen. Roentgenograms showed gaseous distention of the small bowel.

The patient was operated upon shortly after admission, and an obstruction of the lower ileum due to postoperative peritoneal adhesions was released. The terminal ileum was edematous and injected. A Witzel type of ileostomy was made immediately proximal to the obstruction. The patient progressed satisfactorily until the third postoperative day when the ileostomy tube was accidentally pulled out. Distention became evident and the obstruction again appeared complete. A Miller-Abbott tube was passed, and entered the duodenum within twenty-four hours. The distention was easily controlled and the fecal fistula stopped discharging. The signs of obstruction disappeared within four days and the patient progressed to recovery.

Case 3. A twelve-year-old girl, giving a three-day history of acute appendicitis with perforation and diffuse peritonitis, was seen December 12, 1939. The important findings were dehydration, temperature 102°, generalized abdominal tenderness and rigidity with suggestion of a mass in the right lower quadrant. The perforation had apparently taken place about twenty-four hours prior to admission.

A gangrenous appendix with a perforated tip was removed and drains inserted. The patient responded poorly to the operation, developing signs of paralytic ileus with abdominal distention, vomiting, fever and rapid pulse. She was obviously in critical condition. A Wangenstein duodenal tube was introduced and, while functioning well, failed to effect an adequate decompression. On the third day a double lumen tube was introduced into the stomach and entered the duodenum a day later. It passed rapidly to the six-foot mark. The distention disappeared completely. On the seventh day the tube was clamped with no return of the distention. On the ninth day it was removed. Convalescence was complicated by postoperative bronchopneumonia but the patient progressed to recovery.

Case 4. A fifteen-year-old boy was admitted by ambulance to Providence Hospital October 3, 1939, from a neighboring city. The following history was elicited. Four weeks previously a perforated appendix had been removed through a lower right rectus incision and drains inserted. Multiple abdominal abscesses and intestinal obstruction had developed. During the ensuing four weeks he had undergone three more operations, two for drainage of abscesses and one for release of a mechanical small bowel obstruction due to adhesions.

On admission he was in poor condition with dry wasted tissues, thready pulse and temperature 102°. The abdomen was tense, tympanitic and silent. There were draining wounds in the midline, both lower quadrants and the left upper quadrant.

A transfusion and parenteral fluids were administered. Because a Levine tube had failed to effect decompression, a Miller-Abbott was passed into the stomach and its progress checked each six hours by portable fluoroscope. Within twelve hours it had passed the pylorus and two days later passed to the six-foot mark. The abdomen softened and the patient's general condition rapidly improved. After reopening the wound in the left upper quadrant and draining a residual abscess, the patient underwent gradual recovery and left the hospital at the end of the fourth week. Decompression of the small intestine seemed to rapidly change the untoward course of this patient's illness and impressed one as a life saving procedure.

These four cases illustrate the value of intestinal decompression in the treatment of obstruction, whether of paralytic or mechanical origin. The ef-

fectiveness of intestinal intubation with a double lumen tube is shown. It will be noted that in all of the cases the obstruction was postoperative. Intestinal intubation as the sole treatment of mechanical obstruction must be used with care. Improvement may be so marked as to temporarily mask a strangulation requiring early surgery, if the patient is to recover. One must be certain that no such strangulation exists and be ready to intercede surgically, if after decompression the obstruction does not disappear promptly and completely. On the other hand, as an aid to surgical treatment of mechanical obstruction and in the treatment of postoperative paralytic obstruction, intestinal intubation with this long double lumen tube appears of real value.

EXCLUSION OPERATION FOR CARCINOMA OF COLON*

WILLIAM C. SPEIDEL, M.D.

SEATTLE, WASH.

I am offering the exclusion exteriorization or Mikulicz type of operation for the cure of carcinoma of the colon. Diagnosis of a case of carcinoma of the colon is easily made on the basis of alternating constipation and diarrhea, bloody stools, feeling of a tumor, procto- or sigmoidoscopic findings, rectal examination and roentgenologic study.

The question naturally arises as to which procedure should be followed in the individual case. To borrow from golf, "the club to be used depends upon the lie." The controversy raging at present divides itself into two opinions: (1) the multiple stage, (2) the single stage plan. The paramount issue devolves upon one thing, the question of leakage and consequent infection. The means by which that can be circumvented is assuredly the method to be employed.

While the single stage plan affords a shorter convalescence and earlier recovery, there is the inherent weakness and danger of a leaking anastomosis, which even a so-called aseptic operation does not always obviate. The safe method, therefore, is the multiple stage plan.

It depends upon the location of the lesion and whether or not a partial or complete obstruction is presenting. Decompression is accomplished by a proximal colostomy, cecostomy, ileostomy or Pezzer catheter, by the Hendon method, using this till the large bowel is rendered practically safe for anastomosis.

I have had recently three cases in which the exclusion type of operation was done, these patients

being all alive and well now. The tumor was brought outside the abdominal wall, the peritoneum sutured at the base of the loop of the bowel containing the tumor. After forty-eight hours the mass was resected with actual cautery, a spur being clamped off at the end of eight to ten days.

CASE REPORTS

Case 1. Referred by Roderick Janson. Age 52, stenographer, female. For the past two to three months she had noticed pain in the left lower quadrant, radiating toward umbilicus. It was recurrent in character and more severe when her bowels were constipated which was most of the time. When they move the pain is relieved. The latter is also worse when she has much gas, this becoming worse of late. At times the stool is ribbonlike and at other times seems to be quite normal in size. On two occasions she had noticed blood in the stool. She has lost five pounds in the past year. She stated she did not feel well, loss of pep and not up to par.

She had been in fair health most of her life with the exception of a chronic nephritis, noticed some five years ago. This latter, however, had been symptomless, having had no headaches, etc.

There was no history of carcinoma, diabetes or family tendencies. Menopause two years ago, little symptoms. Genitourinary and gastroenteric histories essentially negative.

Examination revealed a well developed and well nourished female, not cachectic, heart and lungs normal. There was a small mass in the left lower quadrant, tender to palpation, not movable, in the region of the rectosigmoid junction. Liver edge not palpable. No other areas of tenderness or masses felt.

Vaginal examination negative, uterus infantile and ante-flexed. Adenexa not enlarged or tender. No hemorrhoids, no masses felt as high as the finger length.

Blood pressure 140/80, Hb. 78 per cent; r.b.c. 4,000,000; w.b.c. 8,000. Fluoroscope revealed filling defect in the sigmoid which could not be changed by pressure. Roentgenograms substantiated this. The stenosis extended for about two inches. The enema was repeated in about one month with the same results. The patient refused an operation at this time and was sent home to build up. She was put on a low residue diet. Roentgenography was repeated in September and the patient consented to an exploratory operation.

October 11, 1939, an annular carcinoma was discovered at the rectosigmoid junction and a Mikulicz type of operation was done. Postoperative course was uneventful. A week later a spur clamp was applied and sloughed out at the end of the eighth day. The patient was sent home October 31. Since that time the colostomy opening has been gradually closing and of late the patient has had several normal bowel movements. She is feeling fine and looks so. Her only complaint is the colostomy.

Pathologic report, adenocarcinoma.

Case 2. Referred by W. C. Knudson. A 61 year old female complained of constipation and abdominal distention of about three weeks duration. She had not had a bowel movement, except with enemas, and then the result was not satisfactory. Stated she had never before been constipated to any great extent. There had been no blood in the stools. The patient showed some mental changes commonly associated with senility, but was alert and cooperative.

Examination revealed moderate abdominal distention with visible peristalsis. No mass could be palpated, abdominally or rectally. Proctoscopic examination failed to show any lesion of rectum or lower sigmoid. A barium enema revealed a constricting lesion at midportion of the sigmoid.

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After several days study and preparation the patient was operated upon November 9, 1938, and a hard annular constricting mass about the size of an orange was found at midportion of the sigmoid. The large bowel proximal to the lesion was markedly dilated. Since the sigmoid was exceedingly mobile a Mikulicz exteriorization operation was done, and the peritoneum anchored to the sigmoid mesentery. Two days later the exteriorized segment of bowel, including the tumor (going wide of it), was removed with the cautery, making a double barrel colostomy. The patient made an uneventful recovery and was discharged to the care of her private physician on the fourteenth day after operation.

CONCLUSIONS

1. Where obstruction presents, decompression by colostomy, cecostomy or ileostomy (as a first stage) to be followed by resection in a practically safe field, is the rational procedure.

2. When accessible, as in carcinoma of the descending colon or carcinoma of the cecum, the Mikulicz type of treatment is ideal.

OVARIAN CYSTS COMPLICATING PREGNANCY*

CARL M. HELWIG, M.D.

A review of ovarian cysts complicating pregnancy by Caverly of New York, and Lynch of San Francisco, gave the following statistics: The incidence of this complication ranges from 1 to 500 to 1 in 1500 cases, while the age incidence is from 28 to 30 years of age. Primiparas accounted for 44 per cent, while in multiparas the percentage was 56. The majority of the cases were unilateral and 50 per cent of the cysts proved to be dermoids. It is interesting to note that 25-50 per cent of the cysts were situated in the true pelvis and of these pelvic tumors 60 per cent were dermoids. This confirms the fact that the cyst most likely to remain in the pelvis and to obstruct labor is the dermoid. There is evidence that ovarian cysts are prejudicial to conception, but none to support the theory that they enlarge during pregnancy.

Symptoms, if any, are due mainly to pressure, depending on their location and those of acute ileus caused by torsion. Complications are usually due to rupture, suppuration and adhesion, torsion and hemorrhage into the cyst. The most dreaded complication is rupture of a dermoid cyst with ensuing chemical peritonitis with usually fatal results.

Diagnosis in pregnancy is not difficult, if antepartum examinations are made early. If the tumor is interligamentous or in the cul-de-sac, it must be differentiated from an ectopic pregnancy and a retroversion of the uterus.

Treatment. Caverly divides the treatment into

three types: (1) expectant throughout pregnancy, (2) ovariectomy during pregnancy, (3) cesarean section plus ovariectomy at term.

He believes that ovariectomy should never be performed in the first two months because of disturbing the corpus luteum. His treatment of choice is cesarean plus ovariectomy at term and next, ovariectomy early in the puerperium, if the case promises to be uncomplicated.

Tiber and Turkel advise removal early in pregnancy regardless of size, type and location, on the assumption that, although ovarian growths complicating pregnancy occur less frequently than fibroids of the uterus, they are much more dangerous, for the accidents due to ovarian tumors in the nonpregnant women are more likely to occur during pregnancy, labor or the puerperium.

Lynch's advice for the difference in treatment of fibroids and ovarian tumors complicating pregnancy is as follows: "In dealing with fibroids one must have an exceptional case, if operation is required; with ovarian tumors one must have an exceptional case, if operation is *not* required."

The problem as I see it is, first, examine all pregnancy cases as early as possible in order that both ovaries may be easily palpated; and, second, rule out any masses in the pelvis, if the first examination is made at such a time when the ovaries are usually not palpable because of the size of the uterus.

In this manner only can one rule out ovarian cysts and, if found, observe them closely for any change in size and make certain that they have been carried upward out of the pelvis with the enlarging uterus.

In a ten-year period I have seen many cysts complicating pregnancy, most of which proved to be luteal in character in that they either became smaller as the pregnancy advanced, or receded to normal during the first few months following delivery.

I have observed only one case, and that recently, where an ovarian cyst complicating pregnancy necessitated removal. On the first examination a cyst the size of a small orange was found lying posterior to the uterus. Frequent examination during pregnancy revealed the cyst always in the same position in the pelvis. Several weeks before term it was easily removed at operation, and proved to be a dermoid. A normal delivery occurred later.

Therefore, I cannot agree with the well known authorities that "all cysts should be removed during pregnancy, regardless of their size and position." I believe it would be a much safer rule to say that only large abdominal cysts, and those

*Read before Annual Meeting of Seattle Surgical Society, Seattle, Wash., Jan. 26-27, 1940.

which persistently remain in the true pelvis should be removed. The method of removal, namely, at a chosen time during the viable months in case labor should start as a result of the necessary manipulation of the uterus, with a normal labor later, or by cesarean section plus removal of the cyst, is one of question and individualization. The remaining cysts can be watched and in those few that persist or give complications can be removed at a later date.

SUMMARY

1. Early pelvic examination in pregnancy.
2. Careful watch of all cysts found.
3. Remove only those that obstruct or become complicated.

FEMALE PSEUDOHERMAPHRODITISM*

PAUL R. ROLLINS, M.D.

SEATTLE, WASH.

Strictly speaking, a true hermaphrodite would be a person who elaborates both sperm and ova. Such a condition probably never occurs by reason of the antagonistic nature of the two sex hormones. For practical purposes, a person is considered to be a true hermaphrodite, if both testicular and ovarian tissue are found. A pseudohermaphrodite is an individual, in whom the sex cannot be determined by the appearance of the external genitals, but who possesses the gonads of only one sex. Thus we have male and female pseudohermaphroditism. The former condition is relatively common and because of the associated hypospadias and complaint of perineal urination, these boys are brought to physicians.

Since an involved consideration of this subject is beyond the confines of this brief report, attention is called to Young's¹ book, in which the many fascinating and bizarre ramifications of this subject are considered. Interesting work by Kwartin and Hyams² should also be mentioned.

This individual, reared as a girl, is fifteen years old. She was referred by Dr. B. F. Bruenner, who was treating her for acne and noted her masculine characteristics. Absence of a vagina had been noted when she was three years old. Menstruation has never occurred, the breasts have not developed and the voice is deep-pitched. Her clitoris has enlarged rapidly in the past three years. Mentally, her reactions are those of a normal girl, although she is inclined to be much alone. She has a "C" average in her school work and finds studies difficult (characteristic of pseudohermaphrodites). Her general health has always been good.

Physical examination reveals a short girl of sthenic habitus, weighing 123 pounds and measuring 58 inches in height; the skin is oily and she is markedly hirsute, hair being present on the chest in scant quantity and showing

the normal male distribution over the abdomen and extremities. There is no breast tissue. The clitoris (fig. 1) is about 5 cm. in length and 1.5 cm. in diameter, beneath which the urethral opening is situated as in a normal female. The labia are small and no testicular tissue can be palpated in them or in the groin. The vagina is represented by a shallow fossa. On rectal examination no pelvic organs or pelvic masses can be made out. Her laboratory work was within normal limits and her basal rate minus 2 per cent.

Various conditions had to be considered in arriving at a preoperative diagnosis, but most of them seemed unlikely. Thus, a well nourished girl developing these characteristics gradually would not be



Fig. 1. Clitoris, anterior and lateral.



Fig. 2. Infantile uterus and ovaries.

likely to harbor a malignancy of the pituitary or adrenal glands, although a hyperplasia of the adrenals (several are illustrated by Young) could not be ruled out. An arrhenoblastoma of the ovary produces masculinity, but as a rule they occur in older persons; in addition, this girl had not been "defeminized." A complete absence of vagina, uterus, tubes and ovaries was possible, but such an individual would presumably be infantile in body type rather than masculine. It seemed most probable that she had an ovotestis in combination with otherwise normal female pelvic organs and that the testicular substance was predominating. A very in-

*Read before Annual Meeting of Seattle Surgical Society, Seattle, Wash., Jan. 26-27, 1940.

1. Young, H. H.: *Genital Abnormalities, Hermaphroditism and Related Adrenal Diseases*. Williams and Wilkins Co., Baltimore, 1937.

2. Kwartin, B. and Hyams, J. A.: True Hermaphroditism in Man. *J. Urol.* 18:363-383, Oct., 1927.

interesting example of this has recently been reported by Huggins and coworkers³. They have urinary estrin and androsten studies which make this a particularly valuable case. Hoping to find a unilateral lesion of this nature which could be removed and thus allow the uninhibited development of remaining ovarian tissue, an exploration was done.

On exposing the pelvic viscera (fig. 2), the uterus, tubes and ovaries were found to be infantile. The uterus measured 2 x 1 x 1 cm; the ovaries were pale, elongated, about the diameter of a pencil and showed no gross evidence of follicle production. The tubes were elongated and small. The pelvis was carefully searched for aberrant nodules suggestive of testicular tissue but none were found. Palpation of the inguinal canals revealed no masses. An appendectomy was done and the abdomen closed. She was then put up in lithotomy position and the vagina opened by blunt finger dissection; it was small and an infantile cervix was easily felt in the vault.

Following her uneventful recovery, she was given 30,000 units of theelin weekly for five weeks, subsequent to which she received 200 units of antophysin thrice weekly for a month. During this time, her breasts developed slightly but there has been no menstrual flow. She has since received light stimulating doses of roentgen ray to her pituitary. Her mental improvement has been quite remarkable. She seems much reassured by the fact that she has all her pelvic organs, even though in an undeveloped state. Her mother thinks she is happier and says her school work is improving and that she is showing more interest in her friends.

In conclusion, I feel that such patients as this are entitled to an exploration in order to ascertain the true nature of their condition, always with the hope of finding aberrant testicular tissue or a unilateral ovotestis. This opinion is contrary to that recently expressed by Greenhill and Schmitz⁴. Also, it has been repeatedly shown that the sex of the individual must not be changed, no matter what is found. Thus, if normal appearing testicles are found in an individual reared as a female, they must be removed and the female allowed to continue as such. Disastrous personality situations arise, if this course is not followed.

3. Huggins, R. R., Cohen, M. and Harden B.: True Hermaphroditism in Man, with Endocrinology Study. *Am. J. Obst. & Gynec.*, 34:136-141, July, 1937.

4. Greenhill, J. P. and Schmitz, H. E.: Hermaphroditism and Sex Determination. *West. J. Surg., Obst. & Gynec.*, 48:36-41, Jan., 1940.

ANEMIA REQUIRES FREQUENT TREATMENTS

The majority of patients with pernicious anemia cannot be satisfactorily treated by injections of liver extract at long intervals even if massive amounts are given, Maurice B. Strauss, M.D., and Frederick J. Pohle, M.D., Boston, assert in *The Journal of the American Medical Association* for April 6.

From their study of fifteen patients who required relatively little liver extract, they conclude that relapse is possible in as short a time as two months after liver treatment is omitted. Twelve of the patients had relapses within a period of ten months after its discontinuance.

"The optimum interval between injections for most patients with pernicious anemia is from one to four weeks," they declare.

CONVULSIONS ASSOCIATED WITH NITROUS OXIDE-ETHER ANESTHESIA*

WILLIAM B. COOK, M.D.

SEATTLE, WASH.

This patient, a thin female of 29 years of age, was operated on at the Swedish Hospital on August 7, 1939. She had never had chorea or epilepsy.

Nitrous oxide and ether anesthesia was administered by one of the regular anesthetists of the hospital. She had one-sixth of a grain of morphine and 1/150 grain of atropine three quarters of an hour before operation. The cervix was coned out with a cervical electrode and a supravaginal hysterectomy for fibroid of the uterus was done. She was a very excitable and apprehensive person and had refused spinal anesthesia. She took the anesthetic poorly and there was more or less labored breathing at times.

As the fascia was being closed, which was one hour and fifteen minutes from the beginning of the operation, she began to have twitching of the eyelids which rapidly spread to the muscles of the face and neck, and then to the arms and finally the entire body was in generalized convulsions. There was embarrassment of respiration and her pulse was weak. The convulsions actually lasted twelve minutes, but it seemed a lot longer than that to me.

She was given oxygen without any improvement and then 15 cc. of calcium gluconate were given in the vein, thinking the condition might be related to tetany. This did not improve the situation. Five cc. of a five per cent sodium solution were injected in the vein, and the convulsions rapidly subsided. The operation was completed and she was returned to her room. The convulsions did not recur.

This experience led me to look up the subject of convulsions during general anesthesia. I found that most of the articles were by English authors. The condition was first reported by Wilson¹. He reported four fatal cases which happened in one year. The ages of the patients were 14, 15, 18 and 21 years. Three were acute appendicitis and the other gas gangrene, following a compound fracture of the leg. The ages are mentioned because the condition had been supposed to be associated with young people with a septic condition. Complete autopsies were done on several cases and no cause for the convulsions could be found. Wilson was the first to use the term "ether convulsions", because he believed they were associated with the aldehydes and the peroxide in the ether. This idea was later discredited because the same ether had been used on other patients without causing convulsions. Convulsions have occurred under chloroform alone, nitrous oxide alone. Even a local anesthetic, when used in excess and it gets into the blood stream, may act as a convulsant.

The convulsions are to be distinguished from ether clonus or ether rigor, a condition which frequently develops during the induction and is due

*Read before Annual Meeting of Seattle Surgical Society, Seattle, Wash., Jan. 26-27, 1940.

1. Wilson, S. R.: "Ether" Convulsions. *Lancet*, 1:1117-1119, May 28, 1927.

to lack of oxygen. This condition ends quickly as the anesthetic is deepened. The term "late convulsions" is used to distinguish them from the early ones, or ether clonus. The real convulsions always occur under deep anesthesia and often as the peritoneum is being closed. They begin with a twitching of the eyelids, extend to the muscles of the face, to the limbs, and then to the entire body. In this way they are distinguished from epileptic attacks which begin with violent tetanic spasms. In the immediately fatal cases, after five or ten minutes of convulsions, the respiration ceases and the heart stops.

Pinson² reported fifteen cases with a mortality of fifty per cent. He considered the cause of convulsions to be due to an excess of CO₂.

The best report in this country has come from Lundy,³ chief anesthetist at the Mayo Clinic. I wrote to Dr. Lundy about his experience with this condition, and the following is a letter from him:

"Since I published the article on convulsions associated with anesthesia, I have had a number of people write me that they also have had such cases, so that it is apparently true that they have been occurring from time to time in the past, but they have not been recognized and certainly have not been reported. Recently I have had two or three more cases, one that was probably not unlike your patient, except that the woman had salpingitis. She developed characteristic convulsive movements. Five cc. of 2½ per cent pentothal solution were administered and the convulsive movements stopped. No other trouble was experienced.

"Very recently (patient still in hospital) we had definite convulsions in a little girl about six years of age with lymphedema of the right arm and axilla. A plastic operation was being done. I gave her about 6 cc. of pentothal intravenously and her convulsions stopped. The next day she was brought to the operating room with all circumstances duplicated as nearly as possible except this time the edematous tissues in the axilla were removed. No convulsions or symptoms of convulsions occurred at the second operation.

"Since no one knows the cause of convulsions, the causes may be many and the circumstances under which they take place may vary considerably. I have stressed the easy control of these convul-

sions by the use of soluble barbiturates intravenously in small doses. It seems to me, because of the high mortality rate in untreated cases, that it is important repeatedly to bring to the attention of surgeons the dangers of not treating the symptoms or recognizing them."

On the experimental side, Grant and Goldman⁴ published a paper on experimental production of tetany by forced respiration. Two human subjects were used, who breathed as deeply as possible in time with a metronome, at the rate of fourteen respirations per minute. Symptoms of tetany developed in each of the twenty-four experiments. In about ten minutes there were spasticity of the facial muscles and contractions of the hand. One subject went into complete tetanic convulsions after deep breathing for thirty minutes. Marked change in alveolar air, blood plasma and urine was noted as result of forced respiration. Alveolar CO₂ tension fell. Blood plasma became slightly more alkaline and the urine decidedly alkaline.

In control experiment, where CO₂ of alveolar air was kept constant, tetany did not develop, and there were no blood and urine changes. Their conclusions were that forced respiration washed out the CO₂ from the alveoli. This reduced the CO₂ content of the blood, and thus produced an alkalosis.

In 1932, Blomfield, editor of the *British Journal of Anesthesia*, sent a questionnaire concerning this condition. In a recent letter to me, he comments as follows:

"The questionnaire on ether convulsions elicited no information. It was sent chiefly to European countries, and they all disclaimed any experience with the condition. Such information as came from the English speaking countries coincided with our own experiences."

Perhaps the causes of convulsions during general anesthesia are many and varied, and cannot be satisfactorily explained. It may suffice to know that such a condition, paradoxical as it may seem, may occur when you think the operation is almost completed. These convulsions occur late. They begin in the muscles around the eyes and face. The pupil is dilated, and instead of crowding the anesthetic, it should be removed entirely. Dr. Lundy recommends intravenous barbiturates, and in this case pentothal sodium was very helpful.

2. Pinson, K. B.: Convulsions Occurring During Surgical Anesthesia. *Brit. M. J.*, 1:956-958, May 28, 1927.

3. Lundy, J. S.: Convulsions Associated with General Anesthesia. *Surgery*, 1:666-687, May, 1937.

4. Grant, S. B. and Goldman, A.: Tetany Following Forced Respiration. *Am. J. Physiol.*, 52:200-232, June, 1920.

STATE SECTIONS

OREGON

SIXTY-SIXTH ANNUAL MEETING, EUGENE, SEPTEMBER 4-7

1940 OBJECTIVES

OREGON STATE MEDICAL SOCIETY

1. An enlarged program to bring more and better medical service to low-wage groups and the people generally.
2. An expanded program of postgraduate education for physicians throughout the state.
3. An enlarged program of public relations to inform the public concerning the principles underlying high-type medical service and the evils of politically or commercially controlled medical service.
4. *Close cooperation with every agency whose program touches medical care, preventive medicine, health education or any phase of medicine.*
5. Full support of the platform of American Medical Association to improve the health and medical services of the Nation.

Every physician in the state is urged to support these objectives by membership in his local medical society and Oregon State Medical Society and participation in their activities.

PRESIDENT'S LETTER

PROBLEMS CONFRONTING ORGANIZED MEDICINE IN OREGON

For many years problems demanding the most attention by organized medicine in Oregon have been economic. As a result of economic chaos serious ethical problems have arisen which have demanded major attention by those responsible for the program of organized medicine. Members have been expelled or have resigned from membership in their county society or the state medical society, and the profession has all but been divided over these economic and ethical controversies. The fundamental cause underlying all this is the bad pattern of contract practice which has been in existence for many years and which was set up and controlled by lay individuals with a profit motive. All the bad practices and lack of ethical concepts have come out of this situation.

At a time when medical leadership of the highest type should have been exercised in forming this pattern, the men in control of medical policies were taken off guard and this improper pattern of practice became deeply entrenched in our state. Our profession thereby became involved in practices which we now see were exceedingly detrimental to the patient and to the profession. A selfish motive with disregard for professional ethics has led to deeper and deeper chaos. This type of contract practice has also been an important factor in furthering the cause of state medicine. Large numbers of people have learned to expect prepaid medicine on a low fee basis and we have

played into the hands of those advocating compulsory health insurance. Private practice has suffered tremendously and has been undermined by contracts, which do not provide free choice of physician and which create a serious break in patient-physician relationship.

Physician-owned-and-controlled Bureaus the Solution

What should be our attitude toward this bad situation, in which we have allowed ourselves to become entangled? We can wash our hands of the whole situation and embrace it as it is or we can try to change the picture by bringing back ethical control by physicians and instilling a nonprofit motive with the welfare of the patient as the sole objective. In Oregon we have chosen the latter course and are in the midst of a program of reforming the whole system of contract practice and placing it under the control of the medical profession where it belongs, realizing that contract practice is here to stay and that a demand for this type of practice will persist.

It is not always an easy or possible undertaking to reform a drunkard by marrying him. It has not been easy to reform contract practice in Oregon or to get it under the control of the profession. We have had a bad pattern to change and we have had to do so in the face of very active competition from lay groups who are organized for profit and who care nothing for medical ethics. We have not sought to injure any commercial group or necessarily put anybody out of business. It has been difficult ethically to compete with those who have no ethics. The selfishness and the seeking for personal gain on the part of many of our own members have failed to see the broader implications of their selfish actions and practices, the welfare of the profession as a whole or the welfare of the public.

Fundamental Principles Now in Effect

We have, however, through constant education of our members, accomplished the adoption of a number of fundamental principles relating to these problems and have put them into effect. Our program is now well under way and the cooperation of our members throughout the state is increasingly gratifying. Our policy recognizes that contract practice is here to stay. It has been and is being taken over by physician-owned medical service bureaus on a nonprofit basis. The service is being limited to industrial groups within a certain income level. The fees allowed for this service are considerably less than regular fees and represent a contribution on the part of physicians toward the care of this worthy class of patients. We do not seek more and more of this type of medical work at a large profit but less and less as the economic status of these patients improve. It is our answer to those critics who deplore the lack of adequate medical care for the large number of workers in this class. It is not our desire that this type of practice should supplant private practice.

Local Autonomy the Desideratum

In our approved set-up we insist that there be only one

physician-owned medical service bureau in a locality or district, that all the physicians in the area desiring to participate in this type of work be included and that there be complete autonomy in each area.

We insist on absolute free choice of physician and hospitals, within the limits of the cooperating panel, and that the service be adequate and of the highest type. We insist that there be no third party intervening between the physician and his patient or dictating the type of medical care to be given. We believe this type of service to the patient to be infinitely superior to lay-controlled, profit motivated plans. We believe this newer type of service to be of much greater benefit to both patient and physician and to the future practice of medicine and to the future health of the public.

Ethical Principles to Prevail

For a medical service bureau to be merely physician owned is not necessarily assurance that the ideals mentioned above will prevail. The physician members participating in this program must put into practice all the ethical principles laid down by the American Medical Association and the Oregon State Medical Society, and their conduct must be under the absolute control of their county and state medical societies. Principles of ethics and rules of procedure have been laid down by our state society and no medical service bureau is approved unless living up to these principles. The various bureaus in various parts of the state are in different stages of development and perfection. We have gone a long way but are not yet perfect. It is pleasing, however, to see the rapid progress and to see also that when these perplexing economic and ethical problems are straightened out the work of our local and state societies progresses and membership increases.

Lack of Familiarity the Greatest Barrier

The greatest barrier to the progress of our program is the lack of knowledge and understanding of the principles involved on the part of some of the members, combined with the ever present characteristics of selfishness and dishonesty on the part of a few which makes it more difficult to demonstrate a united front. Opposition, ignorance and dishonesty are rapidly diminishing and we feel quite certain that soon the major objectives will have been won on this the economic front and then we can be free to devote more time to the many problems demanding our attention and which have been more or less neglected in the past.

CHARLES E. HUNT,
President.

ORGANIZATION ACTIVITIES

The Council of Oregon State Medical Society met in Portland, April 20. The following items are selected from the rather full agenda because of their particular interest to the profession as a whole:

The Council authorized that a letter be sent to Senators Rufus C. Holman and Charles L. McNary, explaining the attitude of the State Medical Society relative to Senate Bill 3630, introduced by Senator Lodge of Massachusetts. It was pointed out that Senator Lodge's bill, which concerns itself with medical care, is indefinite as to the persons covered and services available under the coverage. It further pointed out the difficulty of establishing Federal grants in aid, and the fact that the Oregon State Public Welfare

Commission and our society have carried out a program of low cost medical care to those in need on a quite satisfactory basis.

The Council requested that the State Board of Health reconsider the content of the new "Standard Certificate of Live Birth" and that they exclude certain questions asked under the heading of "supplementary data."

The Advisory Committee on Laboratory Standards brought to the attention of the Council certain problems concerning the relationship of this committee with the State Board of Health. These concern themselves chiefly with the procedure for registration, inspection and approval of laboratories. The Council, acting on this matter, directed a letter to the State Board of Health requesting closer cooperation between the Advisory Committee and the board.

The Council confirmed the appointment of Dr. Roy A. Payne to replace Dr. Robert L. Benson to the Advisory Committee on Laboratory Standards to the State Board of Health. It reviewed correspondence with the Oregon Osteopathic Association and noted with regret that it did not desire to cooperate with Oregon State Medical Society in making a survey of typical osteopathic schools, which was to help clarify the existing confusion in the status of osteopathic physicians.

The Council authorized selection of a representative to attend the second Pacific Coast Series of Courses in Public Relations to be held at Reed College, July 22-August 2. A representative was not chosen at the meeting but will be nominated later.

The Council received a report of the Committee on Cancer Study and favored its suggestion that the component county medical societies be requested to appoint similar committees on cancer study to work in conjunction with the Women's Field Armies of their respective counties.

Discussion was held concerning possible amendments which were offered by the Health Officers Association, concerning various changes in public health legislation in Oregon, particularly those relating to teachers health examinations which are now required by law. This problem was referred to the committee on Public Policy with the suggestion that they consider the amendments and offer such other amendments they deem advisable.

SOCIETY MEETINGS

CENTRAL WILLAMETTE COUNTY MEDICAL SOCIETY

CENTRAL WILLAMETTE COUNTY MEDICAL SOCIETY met in Eugene April 4 and was addressed by Dr. Frank R. Mount of Portland on the subject of "Nonrheumatic Endocarditis."

LANE COUNTY MEDICAL SOCIETY

LANE COUNTY MEDICAL SOCIETY met in Eugene April 19, and was addressed by T. A. McKenzie on "Gastrointestinal Problems," and by W. B. Neal on "Injection Treatment of Hernia."

MID-COLUMBIA MEDICAL SOCIETY

MID-COLUMBIA MEDICAL SOCIETY met in Hood River April 23. Lyle Kingery of Portland was the main speaker and the subject of his address was "Superficial Mycotic Infections of the Skin."

MULTNOMAH COUNTY MEDICAL SOCIETY

MULTNOMAH COUNTY MEDICAL SOCIETY held its regular meetings April 3 and April 17. The program for April 3 was given over to the consideration of subjects dealing with medical economics. John H. Fitzgibbon, delegate to the American Medical Association, discussed "Recent Development in the Health Program of the Federal Government." John J. Coughlin, Legal Counsel of the Oregon State Medical Society, discussed "The Decision of the United States Circuit Court of Appeals Concerning the Anti-Trust Indictment of American Medical Association Officials and Other Defendants." George E. Henton, First Vice-President of Oregon State Medical Society, discussed "Policies of the Oregon State Medical Society Relating to Current Problems of Medical Economics." W. H. Bueermann, President of the Multnomah Service Bureau, discussed "The Organization and Operation of the Multnomah Medical Service Bureau." On April 17 there was a discussion of the Physiology, Roentgenology, and Surgery of the Small Intestine. Hance F. Haney, Associate Professor of Physiology, U. of O. Medical School, discussed "Mechanical Aspects of Digestion in the Small Intestine." Dorwin L. Palmer discussed "Roentgenology of Small Intestine." Ralph M. Dodson discussed "Diverticulosis of Small Intestine."

POLK-YAMHILL-MARION MEDICAL SOCIETY

POLK-YAMHILL-MARION COUNTY MEDICAL SOCIETY met in Salem April 9 and was addressed by Howard P. Lewis of Portland, on "Subacute Bacterial Endocarditis and Brucellosis."

Two amendments to the constitution were proposed, one to change the name of the society and the other to create an associate membership. These will be considered at a future meeting.

UMATILLA COUNTY MEDICAL SOCIETY

UMATILLA COUNTY MEDICAL SOCIETY met April 9 at Pendleton and was addressed by J. M. Odell. Dr. Odell illustrated his talk on "Differential Diagnosis of Pulmonary Tuberculosis" with a number of illustrative X-ray films.

YAMHILL COUNTY MEDICAL SOCIETY

YAMHILL COUNTY MEDICAL SOCIETY held its regular meeting in McMinnville April 2. H. J. Alvis of McMinnville was the speaker of the evening and presented some interesting case histories.

U. OF O. MEDICAL SCHOOL

COMMENCEMENT for medical students of University of Oregon Medical is to be held on the campus of the Medical School in the new Auditorium, the evening of June 7. Those participating on the program will include Dr. Frederick M. Hunter, Chancellor of the State System of Higher Education; Dr. Donald M. Erb, President of the University of Oregon; Dr. R. B. Dillehunt, Dean of the Medical School; and members of the faculty of the Medical School. Fifty students will be awarded the degree of Doctor of Medicine at that time.

THIRD YEAR ORAL EXAMINATIONS are now being held at the Medical School in the subjects of medicine, surgery, obstetrics and gynecology. These examinations include a

review of subjects taken through the third year at the Medical School and students are required to pass these as well as course-examinations in order to continue in school as fourth year medical students.

NEW FACULTY APPOINTMENTS for the coming school year include William Y. Burton, Assistant Professor of Radiology. Dr. Burton is a graduate of Washington University Medical School and has taken special training in the Mallinkrodt Institute of Radiology. His services begin July 1 of this year.

COMMENCEMENT OF THE DEPARTMENT OF NURSING EDUCATION will be held at University of Oregon, June 9, at which time 28 degrees and 53 certificates will be granted.

SCIENTIFIC MEETINGS ATTENDED. Warren C. Hunter, Associate Professor of Pathology, attended the meeting of the American Association of Pathologists and Bacteriologists in Pittsburgh, Pennsylvania, March 21. William B. Youmans, Assistant Professor of Physiology, attended the meetings of the Federation of American Societies for Experimental Biology in New Orleans, March 13-16. Edward S. West, Professor of Biochemistry was also in attendance at this meeting, in addition to Robert S. Dow, Assistant Professor of Anatomy.

THE MEDICAL SCHOOL AND THE CHILDREN'S HOSPITAL ARE RECIPIENTS of a gift in the sum of \$1,000 from Multnomah County Chapter of the National Foundation for Infantile Paralysis to be used for care of persons suffering from poliomyelitis.

W. P. A. has approved a landscaping project at the Medical School for the improvement of its grounds, which will include chiefly a revision of grades, walks and parking areas on the school campus.

RESIDENTS

University of Oregon Medical School Hospitals and Clinics. Beginning Service July 1.

John Krygier, Medicine; William Conklin, Tuberculosis; John Tuhy, Tuberculosis; Francis Wooliever, Surgery; H. F. Inderlied, Radiology; Ronald Neilson, Obstetrics and Gynecology; George Cottrell, Pediatrics Surgery; Roderick A. Norton, Pediatrics Medicine; Tom Dunham, Ear, Nose & Throat; Ralph Pugmire, Eye; Glen Koonce, Dental Medicine; W. Rich Warrington, Pathology; Melvin Anderson, Pathology; Robert D. Johnston, Pathology; John D. McGovern, Pathology; Bernard Halperin, Pathology; Dolores DeFaccio, Anesthesia; Will C. Davis, Dermatology & Syphilology.

CONTINUING SERVICE

Edward W. Abrams, Medicine; James Kennedy, Medicine; Richard Humphreys, Surgery; Werner Zeller, Surgery; Philip Potampa, Urology; Kenneth J. Scales, Obstetrics & Gynecology; Duncan Neilson, Obstetrics & Gynecology; Virgil Larson, Anesthesia.

BOARD OF MEDICAL EXAMINERS

The office of the Board of Medical Examiners of the State of Oregon is now located at 517 Selling Building, Portland. Board consists of the following members: Irvin R. Fox, M.D., President, Eugene; Joseph F. Wood, M.D., Secretary, Portland; L. S. Besson, M.D., Treasurer, Portland; Charles C. Newcastle, M.D., Portland; J. L. Ingle, D.O., LaGrande; Carl G. Patterson, M.D., Baker, and Frank E. Fowler, M.D., Astoria.

Alvin Rea has been appointed special agent. All meetings of and examinations by the board are held in Portland.

During 1939 fifty-five licenses were issued, twenty-six by examination, twenty-three by reciprocity and six by endorsement. Licensees are graduates of many of the leading medical schools of the country, such as the universities of Oregon, Minnesota, Nebraska, Oklahoma, Louisville, Iowa, Chicago, Northwestern, Harvard, Creighton, Washington of St. Louis, Mo., Rush Medical College, College of Medical Evangelists, George Washington University, Washington, D. C.

Board examination will be held at Portland, June 18, 19, 20. Basic science examination will be held at Corvallis, July 6.

STATE BOARD OF HEALTH

Oregon Counties Win Honors in Rural Health Conservation Contest

The Chamber of Commerce of the United States in cooperation with the American Public Health Association announced the awarding to Wasco County, Oregon, the winning place in the Western Division of the Rural Health Conservation Contest. Awards of Merit went to Kern County, California; Thurston County, Washington; Jackson County, Oregon; Marion County, Oregon; and Clallam County, Washington.

The Northwest states should feel proud of their public health record, winning first place and receiving four of the five special awards given in the eleven states comprising the Western District.

Dr. W. S. Rankin, Chairman of the Committee of Public Health Experts, in charge of selecting the winning city and county health departments, stated that these contests are one of the most effective means of furthering adequate health protection and health promotion services ever devised in the United States. The competent manner in which a community is meeting its health problems is the basis upon which the awards are made. This does not necessarily mean they are made to the healthiest communities. A group of public health experts from all parts of the country carefully appraise each participating city and county. Each community is graded on what measures it takes: (1) to provide and safeguard its water supply, (2) to furnish adequate and safe sewage disposal, (3) to reduce infant and maternal deaths, (4) to combat tuberculosis and syphilis, (5) to protect its citizens against other communicable diseases, (6) to insure healthy children, (7) to protect and safeguard its milk and other foods, (8) to promote effective cooperation with its physicians and dentists in furnishing necessary services to all those who need them, and (9) to enlarge and improve its lay-understanding of ways and means of preventing sickness and death and of maintaining good health.

Western Branch of the American Public Health Association to Meet

The Western Branch of the American Public Health Association will hold its eleventh annual meeting in Denver, Colorado, June 23-27, according to the recent announcement of its president, F. D. Stricker, Oregon State Health Officer. The program will be devoted to discussion of public health matters of special interest to the West, and will present speakers of National and Western prominence.

Doctor Stricker Goes East

Frederick D. Stricker, State Health Officer, is in Washington, D. C., attending the Annual Meeting of the State and Territorial Health Officers, and the Conference of State and Provincial Health Authorities of North America. The itinerary for his return trip includes visits to a number of State Health Departments.

Dr. Smith Accepts Alaskan Position

The appointment of Courtney M. Smith to the position of Director of Maternal and Child Health of the Territory of Alaska was recently announced. Dr. Smith served as Health Officer of Clackamas County 1935-39 with the exception of a year spent at Yale, where he received a Doctor's Degree in Public Health. He was appointed Assistant Health Officer in Portland in January, 1939, and served in that capacity until his appointment to the Alaskan service.

Oregon Health Officers Meeting

The Oregon Health Officers meeting will be held in Astoria and Seaside on May 23-25. This is a joint meeting of health officers, nurses, secretaries and other personnel. The meeting on the 23rd will be in conjunction with the League of Oregon Cities at Seaside. On the afternoon program will be Carl Green, State Sanitary Engineer; Willard J. Cloyes, Sanitarian of Klamath County; and Vernon A. Douglas, Health Officer of Marion County. Registration of Health Officers and Sanitarians will be held Thursday forenoon, May 23.

Friday morning will be spent in sectional meetings, the Health Officers' portion consisting of a symposium on communicable diseases. Dr. Bellinger will discuss Tuberculosis; Dr. Strohm, Gonorrhea; and Dr. Levin, Laboratory Advances in Typhoid. The Friday noon luncheon and afternoon meetings will be general sessions devoted to discussion of Child Guidance, Tuberculosis and Records. On Saturday afternoon the group will be addressed by F. D. Stricker on Vital Statistics, Miss Lucille Perozzi on Staff Education and by Wendell Hutchens on Child Guidance.

Oregon State Conference of Social Work

The twenty-third annual Oregon State Conference of Social Work was held in Portland April 17-20. Miss Katherine F. Lenroot, Chief of Children's Bureau, addressed the group on "The Child and the Future of Democracy," and "The Causes of Breakdown in the Family." While in Oregon, Miss Lenroot visited the Wasco County Health Unit, recent winner of the Western Division of the Rural Health Conservation Contest.

Syphilis Course for Nurses Planned

Preliminary arrangements are being made for a course in "Syphilis Control for Public Health Nurses," to be offered at the University of Oregon Department of Nursing Education, Summer Session.

Health Officers Meet

The Southern Oregon Health Officers Association met in Klamath Falls, April 25.

Sewage Disposal, State Institutions

On April 17, the State Sanitary Engineer presented to the State Board of Control a preliminary plan for the proper treatment and disposal of wastes from various state institutions. It was pointed out that sewage disposal facilities

at state institutions are inadequate and that corrective measures should be instituted.

Governor Sprague authorized the State Sanitary Engineer and the State Sanitary Authority to conduct additional investigations relative to this matter, and to prepare estimates of cost which may be submitted to the Board of Control for consideration in the preparation of the budget for 1941-42.

MEDICAL NOTES

THE OREGON TUBERCULOSIS ASSOCIATION held its annual session at Bend April 2 and 3, and developed its program around the topic, "Health Education." The speakers at the meetings were Ernest W. Williams, national finance adviser; Ralph Matson, Portland; Alan L. Hart, Idaho Tuberculosis Association; R. W. Hemingway, council member, Oregon State Medical Society; Miss Ethel Mealey, state board of health; and O. I. Paulson and C. F. Feike of the state board of vocational rehabilitation.

NORTH PACIFIC SOCIETY OF INTERNAL MEDICINE met in Portland April 13. The morning session was addressed by members of the medical school faculty, with Warren C. Hunter, Hance F. Haney, William B. Youmans, William Todd, and Robert S. Dow participating. The afternoon session was addressed by society members.

PACIFIC COAST SURGICAL ASSOCIATION, Richard B. Dillehunt, president, held its fifteenth annual meeting in Portland on April 3-6. The Surgical clinics and demonstrations were held at University of Oregon Medical School and the scientific sessions were held at Multnomah Hotel. Los Angeles was selected as the meeting place for the 1941 session. Charles Sturgeon, Los Angeles, was elected president of the group; Homer Dudley of Seattle, first vice-president; William Livingston of Portland, second vice-president, and H. Glenn Bell of San Francisco, secretary-treasurer.

OREGON TUBERCULOSIS ASSOCIATION met in Portland April 25 and elected the following officers: Mr. Lewis Mills, president; Mr. Howard Holman, vice-president. Mr. A. L. Mills was reelected president and Mrs. E. W. St. Pierre was reelected secretary. Mr. Lewis Mills succeeds Mr. Louis G. Clark as president, Mr. Clark desiring to retire after twelve years of active contributory service.

W. J. MOORE has become associated in practice with H. H. Thomas at Myrtle Point. Dr. Moore is a graduate of the University of Iowa and has recently finished his residency in obstetrics and gynecology at University Hospital in Iowa City.

NO ROYAL ROAD EXISTS TO MANAGEMENT OF ARTHRITIS, PHYSICIANS DECLARE

"There is no royal road to the successful management of arthritis," H. M. Margolis, M.D., and V. W. Eisenstein, M.D., Pittsburgh, declare in an evaluation of the use of several so-called "specific" treatments, published in *The Journal of the American Medical Association* for April 13.

An analysis of the replies to a questionnaire, made by ninety-two physicians from all parts of the United States who are particularly interested in rheumatic disease, led the authors to conclude that a broad and comprehensive program of treatment is still the foundation for successful management of this condition.

At present the use of gold salts appears to be the most promising addition to the treatment. However, the possibility of dangerous reactions warrants extreme care in the use of this drug.

"Sulphur treatment is both without rationale and without effect," the authors state. "Vaccines are apparently losing

JOHN H. FITZGIBBON addressed the Kiwanis club of Oregon City April 4 and explained the attitude of the American Medical Association on the health of the nation and on recent developments in the health program of the Federal Government.

SEASIDE GENERAL HOSPITAL has been taken over by Mr. and Mrs. E. C. Ellis.

WOMAN'S AUXILIARY

During the recent visit of Mrs. R. E. Mosiman of Seattle, national chairman of Public Relations for the Woman's Auxiliary to the American Medical Association, Mrs. C. E. Sears of Portland arranged a small affair at the Town Club on Friday, April 5. Members of the local medical auxiliary invited to tea in honor of the visiting official were Mrs. R. E. Payne, Mrs. Harry Moore, Mrs. R. T. Kaupp, Mrs. F. B. Zener, and Mrs. S. H. Sheldon, all of Portland. During the afternoon the visitor discussed state programs and health education and other matters of interest to the Portland auxiliary.

Mrs. James M. Odell of The Dalles, President of the Woman's Auxiliary to Oregon State Medical Society, spent the week April 1-7, visiting county auxiliaries. Eight local groups (Klamath-Lake, Jackson County, Josephine County, Lane County, Benton County, Clatsop County, Coos-Curry, and Polk-Marion-Yamhill groups) were visited. Mrs. Odell felt fortunate in being able to attend the regular meetings of two of the auxiliaries, Coos-Curry and Benton County.

When the Auxiliary to Multnomah County Medical Society met in Portland on April 22, two guest speakers were enjoyed: Mrs. Silwing P. C. Au, wife of the Chinese consul, who spoke on "The Women and Children of China"; and Mrs. Frances C. Hosford, who spoke on cancer control. Presiding at the tea table during the late afternoon were Mrs. Luther T. Nelson and Mrs. Chas. H. Manlove.

Don't forget to mail your reservation to Dr. Peter Irving, Housing Bureau, Room 1036, 233 Broadway, New York City, stating that you plan to attend the 18th annual convention of the Women's Auxiliary to the American Medical Association, June 10th to 14th. Headquarters will be the Hotel Pennsylvania in New York City.

DORIS ABELE (Mrs. J. F.),

Press and Publicity.

hold. Although their employment results in 'benefit' in a proportion of cases, such results are attributable not to any specific effect of the vaccine but apparently to the psychologic effect of the injection.

"Results from fever treatment are only transitory, and even these are obtained in such a small proportion of cases treated that this form of treatment cannot assume any place of importance. The risks involved, as well as the technical difficulties entailed, far outweigh any modicum of benefit that might be expected. The use of sulfanilamide is unanimously condemned.

"These measures have in the main been difficult to evaluate. One reason for this difficulty is the lack of control studies by those initiating a new form of treatment in arthritis. The fact that rheumatoid arthritis may be a self-limited disease, certainly one subject to spontaneous remissions, further complicates any individual physician's efforts to achieve balanced judgment with regard to the use of new drugs."

WASHINGTON

FIFTY-FIRST ANNUAL MEETING, TACOMA, AUGUST 26-28

MEDICAL SERVICE BUREAUS

Washington physicians were pioneers in establishing bureaus for treatment of low wage earners on a monthly prepayment premium basis. The first bureau was established in 1917, the latest being in 1937. In the state are thirty-nine counties, in twenty-four of which county medical societies are functioning. In thirteen counties are medical service bureaus, all under supervision of the county medical societies with one or two exceptions which operate independently but include society members.

Each medical service bureau is an independent unit, with no supervision or association with any other, but they co-operate by extending service to subscribers of other bureaus. All, however, are administered on the same basic principles with variations to suit local conditions. Some are so situated that the subscribers come chiefly from industrial organizations, while others deal to a large extent with agricultural

in some cases the number is less. More than 78,000 subscribers are covered by all the bureaus.

The purpose of this description of the bureaus is to present the lines of work in which they are engaged, and to demonstrate by reason of the substantial length of time in which they have functioned that this is a practical and useful method of providing medical service for low wage earners. It offers the subscribers the opportunity of medical care at a figure within their ability to pay. While some physicians oppose the plan on account of comparative low fees received for their services, they are assured of monthly payment without the anxiety and effort that frequently accompanies the collection of medical fees from this class of patients, and total receipts exceed those under the traditional form of practice. It is believed that this method of offering medical service to low wage earners is a practical demonstration of meeting some of the problems which inspire certain political and social workers to urgently advocate establishment of state medicine.

Title—	Location	Organized	County Society Members	Bureau Members	Average Subscribers Covered by Bureau	Average Monthly Prepayments	Percentage Allocated to Medical Fees	Percentage to Administrative Expense
Pierce Co. Industrial Med. Bureau	Tacoma	1917	167	100	10,750	Males 1.34 Females 1.50	61.2	8
Yakima Med. Service Corporation	Yakima	1932	60	60		Limited 1.50 Full Cov. 2.50		8-10
Whatcom Co. Physicians & Dentists, Inc.	Bellingham	1932	52	50	1,200	1.50	60	10-15
King Co. Med. Serv. Bureau	Seattle	1933	605	460	37,000	1.56	70	6
Lewis Co. Med. Serv. Bureau	Centralia	1933	27	17	550	1.50-1.75		7
Chelan Co. Med. Serv. Bureau	Wenatchee	1933	29	24	2,800	1.50-1.75	63.3	14.6
Med. Serv. Bureau of Spokane Co.	Spokane	1933	164	144	13,000	1.50	61.8	7.7
Skagit Co. Med. Serv. Bureau	Mount Vernon	1933	29	29	3,000	2.27	57.37	10.92
Cowlitz Co. Med. Serv. Corporation	Longview	1933	21	15	3,000	1.75	60	10
Grays Harbor Co. Med. Serv. Bureau	Aberdeen	1934	20	16	1,000	1.13	50	25
Thurston Co. Med. Serv. Bureau	Olympia	1935	20	19	2,500	1.50	55	11
Clark Co. Med. Serv. Corporation	Vancouver	1936	26	13		1.75	50	
Snohomish Co. Physicians Corporation	Everett	1937	55	55	4,200	2.16	59	3

Analysis of Washington Medical Service Bureaus

workers. The accompanying analysis presents data pertaining to these different bureaus, showing a variety of titles, dates of organization, members in county societies and bureaus, average number of subscribers and other features. It will be observed that there are some differences in the monthly prepayment premiums which are determined by local conditions. Subscribers have free choice of all physicians in the bureau.

There are variations in the medical fee bills, although based to a certain extent on that established by the State Department of Labor and Industries, different details being determined by local conditions. The subscribers of a bureau are limited to individuals with a maximum income varying from eighteen to twenty-five hundred dollars, usually with exclusion of higher salaried officials. The bureaus do not serve individual subscribers, but contract for groups of employees, the minimum averaging not lower than ten, though

WASHINGTON STATE HOSPITAL ASS'N

The annual meeting of Washington State Hospital Association will be held in Spokane, Friday and Saturday, May 17 and 18. The development and growth of the hospital association in both membership and in affiliation with Association of Western Hospitals and American Hospital Association, together with the increased interest shown and emphasis upon legislative matters and hospital prepayment plans, make it necessary to lengthen the program into a two-day session with a banquet Friday evening. The sessions will be at the Davenport Hotel with a luncheon meeting at Sacred Heart Hospital.

This is the first time in the history of the Hospital Association that more than one day will be given to the annual meeting. Dr. Benjamin W. Black, president-elect of the

American Hospital Association, has been asked to attend and take part in the program. Former Senator C. C. Dill is expected to address the hospital executives at the banquet.

During the past year, an increasing cooperation and collaboration between the several committees of the State Medical and State Hospital Associations have been evident. There are many matters of mutual concern and interest between the two associations, especially in the field of economics and legislation. Increased volume of correspondence and general work has for the first time this year required a part-time executive secretary on salary. An increasing coordination, therefore, between the two groups is highly desirable in the State of Washington as has been demonstrated in many eastern states, as in Connecticut, where the official bulletins of the two associations were merged.

FELLOWS OF STATE ASSOCIATION

Because of their twenty years of membership in the state association, forty more physicians who are members of twelve county societies throughout the state were appointed Fellows in the Washington State Medical Association, the state association announced April 22. The county medical societies honored with the new Fellows are Clark, Grays Harbor, King, Kitsap, Kittitas, Pierce, Snohomish, Spokane, Stevens, Walla Walla, Whatcom and Yakima. The list of the new Fellows by counties is as follows:

CLARK COUNTY

W. B. McMakin.....Camas
Herbert L. Underwood.....Vancouver

GRAYS HARBOR

Austin A. Foote.....Elma
Milton P. Graham.....Aberdeen
Clarence M. Young.....Aberdeen

KING COUNTY

Roger S. Anderson.....Seattle
Harry J. Friedman.....Seattle
Robert L. Glase.....Seattle
Virgil K. Hancock.....Seattle
Joseph Hehir.....Seattle
Frances O. Houston.....Seattle
Minor C. Lile.....Seattle
George R. Marshall.....Seattle
Isaac H. Moore.....Seattle
O. A. Nelson.....Seattle
Lester J. Palmer.....Seattle
William C. Riddell.....Seattle
Pius A. Rohrer.....Seattle
Charles E. Watts.....Seattle

KITSAP COUNTY

Harry E. Wilson.....Port Orchard

KITTITAS COUNTY

William A. Taylor.....Ellensburg

PIERCE COUNTY

Charles H. Aylen.....Puyallup
Corban E. Judd.....San Jose, California
J. Arthur Keho.....Tacoma

SNOHOMISH COUNTY

Harry R. Secoy.....Everett

SPOKANE COUNTY

Harry Goldstein.....Spokane
William J. Kress.....Spokane
Charles L. Moad.....Spokane
James L. Rogers.....Spokane
Raymond J. Sprowl.....Spokane
Raymond M. Schulte.....Spokane

STEVENS COUNTY

Charles J. Carson.....Chewelah

WALLA WALLA COUNTY

John C. Lyman.....Walla Walla
James T. Rooks.....Walla Walla

WHATCOM COUNTY

Lyle A. Greenwood.....Bellingham
Dorcie R. Nugen.....Sumas

YAKIMA COUNTY

Kay England.....Yakima
Paul J. Lewis.....Yakima
William M. Munsell.....Grandview
John H. Schutz.....Sunnyside

STATE DEPARTMENT OF HEALTH

Dr. J. O. Dean, Director, Field Consultant Staff, Field Consultant Service on Records, Reports, and Administrative Practice of the Conference of State and Provincial Health Authorities of North America, and his assistant, Mr. Beaumier, have been in the state for the last few weeks, making a study of records, reports and administrative practices of local health departments. A merit system covering the personnel of the county and state health departments will soon be put into operation. A committee, consisting of Mr. Roy Harris, Director of the Division of Public Health Engineering, Dr. L. A. Dewey, Director of the Division of Epidemiology, and Dr. Percy Field Guy, Director of the Division of Maternal and Child Hygiene, worked out the detail of the proposed system, which covers all clerical, as well as technical personnel occupying positions in the public health field. The merit system has been approved by the merit board of the State Department of Social Security, the Governor's office and the State Board of Health. It will become operative as soon as it receives the approval of the federal government.

Mr. Francis D. Rhoads, State Registrar of Vital Statistics, attended the Census Bureau Conference in Washington, D. C., April 9-12. Plans for checking the accuracy of birth registrations against figures collected by the census takers, and the several features of a proposed uniform vital statistics law were discussed at this conference. Mr. Rhoads indicated that it was the consensus of opinion among state registrars that a revision of the present state statutes to bring about greater uniformity and accuracy in collecting vital statistics was greatly needed.

Dr. Donald G. Evans, State Director of Health, who has been on a leave of absence this winter at Johns Hopkins University, completing his studies for a doctor's degree in public health, plans to resume his duties early in June.

Dr. F. F. Smith, Dental Consultant in the Division of Maternal and Child Hygiene submitted his resignation to be effective on July 1. Dr. Smith plans to enter private practice. To date the vacancy caused by Dr. Smith's resignation has not yet been filled.

An educational program in sight conservation and blindness prevention to be conducted with the help of the state's teacher training institutions has been developed as a joint responsibility of the State Department of Health and the State Department of Social Security's Division of the Blind. The following schools are already helping with this program: University of Washington, Washington State College, Whitman College, Walla Walla College, Western Washington College of Education, Central Washington College of Education, Whitworth College and Eastern Washington College of Education.

Dr. R. H. Fletcher, Acting State Director of Health, will leave for the East on Wednesday, May 1, to attend a conference of the State and Provincial Health Authorities of North America.

CANCER CONTROL ACTIVITIES

Members of the Neoplastic Committee of Washington State Medical Association conducted a far-reaching educational campaign during April, known nationally as the Cancer Educational Month, according to a report made known by the chairman of the committee, H. J. Whitacre. Two new films released by the American Society for the Control of Cancer, depicting the growth of cancer of the breast and the uterus, were shown to lay groups by Mrs. John Hughes, head of the Women's Field Army in King County. Similar films were shown by Mrs. Hansen of Spokane and Mrs. Bertram Thomas of Tacoma, both leaders in the field army.

A panel on cancer open to the public was given at the Tacoma Y.M.C.A. on April 11. The forum was under the auspices of the Tacoma Y.W.C.A. and the Woman's Auxiliary to Pierce County Medical Society. Those participating in the panel were Drs. S. M. MacLean, W. W. Mattson, W. B. McCreery, B. D. Harrington, C. P. Larson, S. F. Herrman and H. J. Whitacre.

S. T. Cantril of the Swedish Hospital, Seattle, spoke before a unit of the Women's Field Army on cancer, April 19, at Shelton. Other activities included a radio talk by C. B. Ward, Seattle, over Station KIRO, April 10, and a meeting on cancer of the stomach and colon under Dr. St. Pierre of Portland before the Walla Walla Valley Medical Society, April 10. A talk on cancer was also given by Dr. Whitacre before a combined meeting of the Rotary and Kiwanis clubs at Chehalis, the talk being broadcast over Station KELA of that city. Speakers were scheduled before various civic and women's groups in Yakima, is the report made by G. W. Cornett of that city. Yakima County Medical Society plans to conduct a panel on cancer sometime this fall.

The Neoplastic Committee has already made arrangements for an interesting symposium and exhibit for the state meeting scheduled for August 26 at Tacoma, the chairman, Dr. Whitacre, announced. The exhibit will tell a story on the four phases of the disease: (1) the extent of cancer as a social problem, (2) diagnosis, (3) treatment, (4) results. The exhibit will also show the three treatments of cancer by radium, surgery and roentgen ray.

SOCIETY MEETINGS

COWLITZ COUNTY MEDICAL SOCIETY

April meeting of Cowlitz County Medical Society was held at Hotel Monticello, Longview, April 17. Paul Bailey of Portland gave a very interesting illustrated lecture on "Use of the Bronchoscope." Several skiagrams were shown, demonstratng various types of foreign bodies which had been successfully removed.

Roger Keane, also of Portland, gave an illustrated lecture on a new type of gastroscope. He has shown that an earlier diagnosis of cancer may be made by use of this instrument. It is, however, a device calling for considerable skill and training.

Women's Auxiliary to Cowlitz County Medical Society met the same evening with Mrs. C. J. Sells and Mrs. R. J. LaRue acting as joint hostesses. Mrs. J. L. Norris gave a review of the book, "You're the Doctor," by Dr. Victor Heiser.

KING COUNTY MEDICAL SOCIETY

A regular meeting of King County Medical Society was held April 1 in the auditorium of Medical-Dental Building, Seattle, at 8:15 p. m., president Shelby Jared presiding. A. Poska, M. R. Waldron and W. W. Wick were elected to membership. Application of W. E. Watson was read.

The program was presented by the Neoplastic Committee. C. B. Ward read a paper on "The Importance of Careful History Taking." A series of cases was discussed in which difficulties of diagnosis were presented. Emphasis was placed on roentgen examinations and careful biopsy. R. I. Mosiman discussed "Importance of Biopsy in Diagnosis of Cancer." Necessity of obtaining a portion of the tumor for examination was stressed. Where the lesion is small it may be missed and may be removed entire. Clyde Jensen discussed "The Relationship Between Trauma and Cancer." The most practical application of knowledge of trauma and cancer is seen in the court room. Physicians should avoid court testimony about such cases that they would not willingly give before a scientific medical meeting.

SNOHOMISH COUNTY MEDICAL SOCIETY

Special meeting of Snohomish County Medical Society was held in library of the Medical and Dental Building at Everett, March 21, for a symposium on cancer. Meeting was addressed by Horace Whitaker of Tacoma, Donald Trueblood of Seattle, and C. B. Ward of Seattle.

WALLA WALLA VALLEY MEDICAL SOCIETY

Regular meeting of the Walla Walla Valley Medical Society was held at the Grand Hotel, Walla Walla, April 11. Guest speaker was E. W. St. Pierre from University of Oregon Medical School at Portland. He discussed "Carcinoma of the Stomach and Colon."

MEDICAL NOTES

HOSPITAL CONFERENCE CALLED. Commissioners of Pierce County have called a commission of four members to confer with Burton A. Brown, superintendent of the county hospital on rehabilitation of that institution. Funds were made available for this work at the recent election and it is estimated that there will be about \$225,000 with which to modernize the hospital. The commission is to be composed of Mr. Olaf L. Olsen, director of the state department of finance, Mr. C. J. Cummings, superintendent of Tacoma General Hospital, W. N. Keller, superintendent of Western State Hospital and Karl Van Norman, superintendent of King County Hospital.

COUNTY HOSPITAL TO OPEN. Early May saw the opening of the new Kittitas County Hospital at Ellensburg. Begun last fall, the \$90,000 structure has been rushed to completion and will be put to immediate use. It is divided into three two-story wings and will house forty-five beds, nearly three times the number of the old county hospital.

HOSPITAL BUILDS. St. Luke's Hospital, Spokane, has awarded contract for construction of a new wing at cost of \$90,000. New structure is to be four stories in height. It was made possible by gift of Mr. and Mrs. E. A. Shadle.

NEW HOSPITAL SUPERINTENDENT. Mrs. R. Z. Deeny, formerly of Seattle, has been appointed superintendent of Shelton General Hospital.

SPOKANE GETS NEW CLINIC. Spokane health department recently opened a new general clinic on the sixth floor of

the city hall. Much new space has been provided for treatment rooms, offices and other purposes.

HOSPITAL EXPANDS. Contract has been let by Swedish Hospital of Seattle for construction of a new four story wing to replace the present southeast wing. The new structure will house additional surgery rooms, delivery room, nursery and offices.

PARTNERS BUILD CLINIC. J. E. Bittner Jr. and B. C. Koreski of Yakima are remodeling a residence at 307 North Third Street, Yakima, for use as a clinic.

OBSTETRICIANS MEET. Semiannual meeting of Washington State Obstetrical Association was held in Yakima April 6. Officers for the coming year were elected. Next meeting will be held in Spokane in October.

HEALTH OFFICERS CHANGE. Cecil Fargher, formerly health officer for Chelan County, has been appointed to a similar position for Clark County. He replaces J. A. Kahl who resigned. Harold U'Ren, who has held the position temporarily, goes to Walla Walla as county health officer. George Kingston goes from Walla Walla to Chelan County. William A. Johnson formerly assistant superintendent of the Pierce County Hospital has been named health officer for Cowlitz County.

LOCATIONS. C. M. Canning, formerly of Ione, has moved to Colville. Harry C. Smith, who has been at Aberdeen for the past three years, has moved to Elma, where he will be associated with A. A. Foote.

WOMAN'S AUXILIARY

KITSAP COUNTY AUXILIARY, one of our smallest groups, is nevertheless one of the most active. In April this auxiliary met at the home of Mrs. R. B. Miller in the Navy Yard at Bremerton, with Mrs. G. M. James as cohostess. Mrs. Elmer Cornell, president, presided over the business meeting which was attended by thirteen members. Miss Fraser, county health nurse, and Miss Porter, county extension agent, presented a moving picture on the life of Marie Curie. Mrs. G. M. James spoke on radium, and gave a book review of "North Again for Gold." Supper was later served to Auxiliary members and their husbands.

SPOKANE COUNTY AUXILIARY had "guest day" at the regular monthly meeting on April 11. Mrs. Max Wright presided. Reports were given by committee chairmen and by Mrs. Frank Fursey, chairman of Red Cross, who thanked the members for their cooperation in the annual Red Cross drive held in March. Dr. Allen Boyce, obstetrician, spoke on maternal and child welfare. Pupils of Lewis and Clark High School presented a skit, entitled "Weinies for Breakfast," under the direction of Miss Ann Reely. County Chairman of Cancer Control Mrs. George Hill, announced the cancer control drive for April, and urged members' cooperation.

YAKIMA COUNTY AUXILIARY participated in a memorial service for Mrs. J. B. Scott of Yakima, prominent in the civic and cultural life of that community, and an ardent auxiliary worker, whose death, April 17, was a great loss to the city of Yakima. The Auxiliary met with the County Medical Society for a joint dinner on April 8, followed by separate business meetings. Later Dr. John Dewey of Seattle, a state health director, addressed the joint gathering. Drs. A. J. Helton and C. J. Lynch also spoke. Members are planning a reciprocity day tea to be held on April 24. Presidents and representatives of all women's clubs in

Yakima are invited to this meeting. Preceding the tea Dr. Stanley R. Benner will speak.

GRAYS HARBOR AUXILIARY will be busy in May, when a P.-T.A. convention will be held in Aberdeen. They are planning to distribute copies of *Hygeia* and cancer literature to those attending the convention which will be statewide. In March the Auxiliary met in Montesano at the home of Mrs. M. S. Harmon. Following the business session Mrs. Frank T. O'Brien gave a paper on "The Anatomy and Physiology of Leonardo da Vinci." Mrs. A. Anderson reviewed "News Is My Job," by Edna Lee Booker. This county auxiliary is a small one in point of numbers, but its activities are many and varied.

COWLITZ COUNTY AUXILIARY held guest day at its January meeting, with twelve members and fourteen guests present. Nurses and office staff of the local hospital were special guests. After the business meeting Mrs. Floyd Scott reviewed "The Gentle People." Auxiliary members attended a portion of the February meeting of the County Medical Society, to view surgical motion pictures. Later Mrs. Justin McCarthy presided over the business sessions of the Auxiliary. Mrs. P. H. Henderson reported a total of thirty-three subscriptions to *Hygeia*. A dinner party was in order for the March gathering. *Hygeia* Chairman Mrs. Henderson read a congratulatory letter from the State *Hygeia* Chairman, and Mrs. J. L. Norris read news items of interest. "Lillian Wald, Neighbor and Crusader" was reviewed by Mrs. C. J. Sells. Lillian Wald established the visiting nurse service in the United States in 1893.

SKAGIT COUNTY AUXILIARY was entertained by the County Medical Society at dinner at President Hotel in Mount Vernon on March 11. Frank Davidson of North Bend was guest speaker, and gave a delightful program on Rudyard Kipling, reciting from his poetry and prose. On March 25 auxiliary members and their husbands met again at the home of Dr. and Mrs. Ralph Peterson, where Dean Charles Lewis reviewed "The Children of God," by Vardis Fisher. The auxiliary sponsored an open lecture on April 9 by Dr. Donald D. Trueblood of Seattle, which was well received by a large number of the public who attended.

It won't be long now before the Woman's Auxiliary to American Medical Association will convene at the Hotel Pennsylvania, New York City, for its eighteenth meeting, June 10-14. Is your reservation in? We are sure you will want to stay at the headquarters Hotel Pennsylvania. In order to get a reservation, mail your request today to Dr. Peter Irving, Housing Bureau, Room 1036, 233 Broadway, New York City.

MRS. SOUREN H. TASHIAN,
Publicity Chairman

INFORMATION WANTED

The office of Washington State Medical Association has been notified by the state department of licenses at Olympia that an E. A. Vincent, charged by the Department of Law Enforcement of Idaho with practicing medicine in Idaho without a license, is wanted by that state on warrant for arrest. Mr. Vincent, it is alleged by the Idaho department, "prescribes medicines, diagnoses and uses chiropractic adjustments." The Idaho office declares that Vincent was convicted in the state of Utah on the same charges. Anyone hearing of Mr. Vincent "prescribing and adjusting" in the state of Washington is asked to wire or communicate immediately with the Washington State Department of Licenses or the Washington State Medical Association.

IDAHO

FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPTEMBER 11-14

PUBLIC HEALTH REPORT

IDAHO STATE DIVISION OF PUBLIC HEALTH will hold the second annual State Public Health Conference at Boise May 24 and 25 for the purpose of a general discussion of the public health program, and to formulate plans and policies for the next year. Directors, supervising nurses and sanitarians of the local health units are expected to attend.

DIPHTHERIA OUTBREAK. During the past month, there was a small outbreak of diphtheria at Nampa. A survey of schools was made by H. L. McMartin, epidemiologist, and an active immunization program was put on by the local physicians.

E. L. BERRY, Director of the State Division of Public Health, will leave May 3 to attend the Surgeon General's Conference of State and Territorial Health Officers in Washington, D. C., May 6-13.

The third annual postgraduate lecture tour, sponsored by the State Division of Public Health, was held during April. Drs. Howard C. Stearns, Morris L. Bridgeman and Joyle Dahl of University of Oregon Medical School were the guest speakers. Meetings were held at Idaho Falls, April 15; Twin Falls, April 16; Boise, April 17; Lewiston, April 19; and Coeur d'Alene, April 20. The lectures were of high quality and the meetings were well attended.

SOCIETY MEETINGS

NORTH IDAHO DISTRICT MEDICAL SOCIETY

Regular meeting of North Idaho District Medical Society was held at the Lewis-Clark Hotel, Lewiston, March 20. A report from the National Physicians Committee for the Extension of Medical Service was read and it was urged that all members support this committee and its work.

Scientific section of the meeting was addressed by R. J. Bailey and William Mhyre of Spokane. Dr. Bailey's topic was "Recent Advances in Treatment of Common Skin Diseases." Dr. Mhyre read a paper on "Treatment of Heart Disease."

Meeting of the auxiliary to the medical society was held the same evening and was addressed by Mrs. R. S. Stringfellow of Boise who read a paper on the work of women in the fight against cancer.

POCATELLO MEDICAL SOCIETY

Regular meeting of Pocatello Medical Society was held at St. Anthony's Hospital, Pocatello, April 4. After discussion on the question of a censor, E. N. Roberts was unanimously chosen to fill that office. All questions pertaining to ethical practice are to be referred to this office which will render a report to the Society for action.

Scientific portion of the program was a symposium on peptic ulcer. H. P. Howard of Pocatello discussed "The Medical Treatment of Peptic Ulcer" and A. M. Newton of Pocatello read a paper on "Surgical Treatment of Peptic Ulcer."

SOUTHWESTERN DISTRICT MEDICAL SOCIETY

The annual spring meeting of the Southwestern Idaho District Medical Society was held in Boise April 17 and 18.

The program was furnished through the courtesy of the State Division of Public Health. On April 17 a lecture was given by Howard Stearns on Endometriosis. Joyle Dahl spoke on the treatment of Syphilis and Morris L. Bridgeman discussed pediatric problems. The speakers were members of the University of Oregon Medical School. On April 18 clinics were held on pediatrics, dermatology, obstetrics and gynecology.

MEDICAL NOTES

GRANGEVILLE HOSPITAL OPENS. Open house at the new Grangeville General Hospital was held Sunday, April 7. This new and attractive modern hospital is the culmination of long effort on the part of Grangeville citizens who have worked for a community hospital for a number of years. The structure houses twenty-five beds and equipment is thoroughly modern throughout. Cost of hospital and equipment was estimated at \$60,000. It was opened for general use on April 15.

HOSPITAL EXPANDS. Addition of forty beds at St. Anthony's Hospital, Pocatello, has been planned. This will bring the capacity of the hospital to one hundred beds. It is estimated the cost will be about \$75,000.

STATE MEDICAL BOARD EXAMINES. Twenty-five candidates took the examination of the State Board of Medical Examiners the first week in April.

NURSES MEET. Idaho State Nurses Association held its annual banquet at Pocatello, April 15. E. N. Roberts of Pocatello addressed the meeting on the subject of "Hospital Personality."

PROFESSIONAL SOCIETIES MEET. Organization of an inter-professional group, composed of physicians, dentists and pharmacists, was perfected at a meeting at Twin Falls March 26. These groups are all interested in preservation of democratic principles and are vigorously opposed to regimentation. Meeting was addressed by H. E. Rhodel of Spokane, northwest representative of the National Physicians Committee for the Extension of Medical Service. The group decided to have the presidents and secretaries of cooperating professional groups form a permanent committee to keep in contact with proposed new legislation and act as they think best to promote the interests of the allied professions.

HOSPITAL HOST AT BANQUET. Annual banquet of the St. Alphonsus Hospital, Boise, was held at the Owyhee Hotel April 2. Boise physicians were guests at the meeting which was addressed by George Pierce of San Francisco.

WOMAN'S AUXILIARY

Have you made your hotel reservation for the 18th Annual Convention of the Woman's Auxiliary to the American Medical Association which will be held in New York City, June 10 to 14? The headquarters are at the Hotel Pennsylvania and we are sure you will not want to miss this convention which promises to be an outstanding one. *Mail your reservation today* to Dr. Peter Irving, Housing Bureau, Room 1036, 233 Broadway, New York City.

BOOK REVIEWS

SHOCK. *Blood Studies as a Guide to Therapy.* By John Scudder, M.D., Med. Sc. D., F.A.C.S. From the Surgical Pathology Laboratory of College of Physicians, Columbia University and Department of Surgery, Presbyterian Hospital, New York City. 55 illustrations, five plates, three in color. 315 pp. \$5.50. J. B. Lippincott, Philadelphia, 1940.

In this volume theories of shock due to toxemia, loss of circulating fluids, disturbances in the nervous system and adrenal exhaustion are reviewed. Importance of hemoconcentration occurring in shock is stressed. Determination of venous pressure and weighing a drop of peripheral blood serve as measures of hemoconcentration and vasoconstriction occurring in shock, and are of more value than blood pressure determinations, since they herald by many hours its ultimate fall. Determination of the specific gravity of peripheral blood is superior to erythrocytic and hemoglobin determinations in measuring hemoconcentration because of its accuracy, speed and greater sensitivity. Blood findings in cases of shock due to operation, trauma, trauma complicated with hemorrhage, burns or perforations of the intestinal tract are given. Treatment of shock, including the rationale of adrenal cortical hormone, is advanced. New conceptions of disease and its treatment in terms of physiology and biochemistry are being formulated.

JOHN DUNCAN.

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES. By Paul Titus, M.D., Obstetrician and Gynecologist to the St. Margaret Memorial Hospital, Pittsburg, etc. With 368 illustrations and 5 Color Plates. Second Edition. 968 pp., \$10. The C. V. Mosby Co., St. Louis, 1940.

Significant advances in obstetric diagnosis and treatment during the past three years are mirrored in the changes in this volume. The problem of sterility is presented more fully. Sulfanilamide and its use in pyelitis and puerperal infection is concisely discussed. Specific instructions are given concerning the use and methods of pelvic roentgenometry. The toxemias—hyperemesis, preeclampsia and eclampsia—are considered as probably manifestations of the same basic disturbance. Therapy of hyperemesis is modified by addition of insulin when indicated by hyperglycemia. The "edema" theory of Arnold and Fay is contrasted with the "dehydration" theory of McPhail and treatment of the late toxemias is based on the former.

Unchanged is the practical and conservative nature of advice given. Approach to the subject is logical, treatment of it lucid and concise. Preferences in controversial matters are based on a long and successful clinical experience. The many new illustrations, clear readable type and greatly enlarged bibliography help to make this an excellent book for the general practitioner, student and specialist.

H. H. NUCKOLS.

THE FUNDAMENTALS OF INTERNAL MEDICINE. By Wallace Mason Yater, A.B., M.D., M.S. (in Med.) F.A.C.P. Professor of Medicine and Director of the Department of Medicine, Georgetown University School of Medicine, etc. First Edition—Revised. 1021 pp., 255 illustrations. \$9.00. D. Appleton-Century Co., Inc., New York, London, 1940.

The modern tempo being what it is and tending to become faster constantly, it is inevitable that medical literature shall in many instances trend toward condensed or digest form, as the lay literature has for some time done. The arrangement of material in this book is such

that the broad subject of internal medicine is well covered in a relatively small volume. References to sources and theoretical discussion are omitted and every other means is used to shorten and condense the material. It represents the knowledge and accumulated experience of the author and his eleven cocontributors in the diagnosis and treatment of internal diseases. It should serve as a fine textbook for the mature medical student who would realize that he must consult other works to gain broad conceptions of the subjects covered; for the busy practitioner, it is an excellent quick reference volume. Each of the twenty-one sections is completely outlined so that one may at once turn to the part he wishes to study. The many illustrations are clear and well chosen.

C. C. GOSS.

FRACTURES. By Paul B. Magnuson, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School, etc. Third Edition. 317 illustrations. 511 pp., \$5.00. J. B. Lippincott Company, Philadelphia, 1939.

The author brings out in some detail the procedure for treating fracture of neck of the femur by internal fixation, which has practically supplanted the old abduction method. He lays great stress on the angle or plane of fracture, and points out the importance of taking this into consideration in prognosis. The book adheres closely to fundamental principles and avoids speculative and debatable procedures. Treatment is based on anatomy and physiology, and the logic of the procedure advocated is clearly given. The author makes no attempt to discuss or even list all the various successful methods of treating different types of fractures, but the treatment he does recommend is one which not only is safe but has been worked out in actual practice.

Many practical ideas and suggestions are given which can come only from one who has had the extensive and varied experience acquired from actually handling innumerable fracture cases. Methods are not only sound but simple, constantly stressing mobilization in functional position.

One is impressed by the clearness and conciseness with which each individual fracture is presented. This is excellent as a ready reference book for one suddenly confronted with treatment of a fracture.

L. H. EDMUNDS.

TEN YEARS IN THE CONGO. By W. E. Davis. 301 pp., \$2.50. Reynal & Hitchcock, New York, 1940.

This is a fascinating account of the author's ten years of medical practice in the interior of Africa, where he was connected with a church mission. His descriptions of personal contacts with the natives give one a new conception of their personalities and characteristics. Bound by traditions centuries old, these people are guided and controlled in all their actions by taboos. Fear of evil spirits is a constant menace, worked to the limit by their witch doctors. The author describes amazing results from major surgical operations, assisted by natives with such training as he imparted to them. Mortality of infants is about fifty per cent. The weak necessarily succumb early. He thinks the survivors appear to develop certain immunity to diseases. He never saw a case of puerperal fever, and very rarely postoperative infection. The common view that these natives are not fully human is shared by them regarding the white man. Astonished by some of the latter's performances, the author would hear them exclaim, "White men aren't really people." He asserts that the girls are

beautiful physical specimens, with velvety skin and natural grace of movement, but by fifty years of age most of them are wrinkled hags. Such a book is attractive reading in contrast to some writings dealing with African "savages."

ARGYRIA. *The Pharmacology of Silver.* By William R. Hill, M.D., Instructor in Dermatology and Syphilology, University of Pennsylvania, and Donald M. Pillsbury, M.A., M.D., Associate Professor of Dermatology and Syphilology, University of Pennsylvania. 172 pp., \$2.50. The Williams & Wilkins Company, Baltimore, 1939.

The primary purpose of this volume is a review of literature of the subject and an attempt to formulate conclusions concerning the incidence of argyria, the circumstances of its production and the most feasible means of its prevention. The attention paid to this subject is indicated by the bibliography quoting 601 references. There are various theories of absorption of silver as belief in its reduction in the stomach, whence it is transported as metallic silver; its change into chloride and albuminate, and thus absorbed from the intestines. Following absorption from the gastrointestinal tract, it enters the portal circulation and then by way of the inferior vena cava into the general circulation. No data are available regarding silver excretion. Once introduced into the blood stream no methods will prevent the silver deposition in the tissues. Prevention of argyria must include education of physicians and pharmacists regarding this complication.

MANUAL OF FRACTURES, DISLOCATIONS AND EPIPHYSEAL SEPARATIONS. By Harry C. W. S. deBrun, M.D., F.A.C.S., Adjunct Professor of Surgery, New York Polyclinic Medical School and Hospital, etc. 168 pp., \$3.00. The Year Book Publishing Co., Chicago, 1939.

The author states the reason for this book is to have a concise treatment on fractures and dislocations for the general surgeon and practitioner. The text covers the subject in a clear and concise way and confusion to the reader is avoided by not giving all methods of treatment, where there is a similarity in the various methods in use. Open reduction and reconstruction operations are covered but not as thoroughly as they should be for the general practitioner. No instruction is given in the difference in operative technic between general and bone surgery, although many very difficult and highly specialized operations are briefly outlined.

In the text covering operative treatment of fractures and dislocations the book falls short of the requirements of the general practitioner as it is very brief. The general surgeon and practitioner, using this book, will get much help from it but should ignore the operative text as it may lead him into difficulties.

J. C. BRUGMAN

SEXUAL DISORDERS IN THE MALE. By Kenneth Walker, F.R.C.S., Surgeon to the Genito-Urinary Department, Royal Northern Hospital, and Eric B. Strauss, D.M., F.R.C.P., Physician for Psychological Medicine, St. Bartholomew's Hospital. 248 pp., \$3.00. The Williams & Wilkins Company, Baltimore, 1939.

It is stated that something like ninety per cent of sexual disorders in the male are mainly psychologic in origin, and the success claimed for surgical procedures is chiefly due to their suggestive value. It is well known that sexual disorders often have a profound influence on the whole male personality. The emphasis of this book is that the physician's function is one of diagnostic technic rather than treatment.

Much of the book deals with the subject of impotence, the basis of much sexual neurosis. Chapters consider both its medical and surgical treatment, whenever the latter seems advisable. The value of psychotherapy in such conditions is properly emphasized.

COMPENDIUM OF REGIONAL DIAGNOSIS IN LESIONS OF THE BRAIN AND SPINAL CORD. A Concise Introduction to the Principles of Localization of Diseases and Injuries of the Nervous System. By Robert Bing, Professor of Neurology, University of Basel, Switzerland. Translated and Edited by Webb Haymaker, Assistant Clinical Professor of Neurology and Lecturer in Neuro-Anatomy, University of California. Eleventh Edition. With 125 Illustrations, 27 in Color, and 17 Plates. 292 pp., \$5.00. C. V. Mosby Company, St. Louis, 1940.

Any medical book, which passes through eleven editions and has the excellence and vitality to remain for thirty years an outstanding authority in any given subject, carries its own recommendation. This text is literally a compendium; it contains in highly concentrated and technical form, neurologic data which will withstand the most critical scrutiny as to soundness and practical value. It is, therefore, a neurologist's neurology, and is indispensable to the specialist's library. Most of the material is included in more digestible style, however, in the fifth edition of "The Textbook of Nervous Diseases" by the same author and translator and published by Mosby.

M. M. CAMPBELL

PNEUMOCONIOSIS (Silicosis). The Story of Dusty Lungs. A Preliminary Report. By Lewis Gregory Cole, M.D., Director of Silicotic Research, John B. Pierce Foundation, New York City, and William Gregory Cole, M.D., New York City. 290 pp., \$1.00. John B. Pierce Foundation, New York, 1940.

The studies in this volume are not confined to pulmonary lesions from mining, but describe the results of dust inhalations from the cradle to the grave. Its detrimental effect was recognized for three or four centuries among those engaged in mining and stone cutting. Problems involved in the subject are considered under etiology, pathogenesis, anatomy, pathology, roentgenology, clinical, social and economic problems, legislation. "A Travelogue of Dust Flecks" is a fascinating description of the progress of dust into lung tissues. Four types of pneumoconiosis are described. This volume does not complete the study of the subject, but is surely a well developed introduction to it.

SAVILL'S SYSTEM OF CLINICAL MEDICINE. Dealing with the Diagnosis, Prognosis and Treatment of Disease, for Students and Practitioners. Edited by Agnes Savill, M.D., and E. C. Warner, M.D., F.R.C.P. Eleventh Edition. 1141 pp., \$9.00. William Wood & Company, Baltimore, 1939.

There must be a demand for a book of this size to have gone through eleven editions, nine of them in the past twenty years. Medicine is here approached from the clinical aspect. The causes of various symptoms help to simplify diagnosis. Also special attention is directed toward prognosis and treatment. A long list of new additions is presented, entailing the recasting of chapters and rearrangement of context. All medical subjects are discussed, essential points being emphasized and little attention given to superfluous descriptions. Sufficient illustrations amplify the text, some of them being in color. With this volume available one has at hand convenient and condensed descriptions and suggestions for treatment of medical conditions presented in ordinary practice.

MASSAGE AND REMEDIAL EXERCISES in Medical and Surgical Conditions. By Noel M. Tidy, Member of the Chartered Society of Massage and Medical Gymnastics, etc. Fourth Edition. 458 pp., \$5.25. The Williams & Wilkins Company, Baltimore, 1939.

This book deals with the subject of massage and its application to medical and surgical conditions. Fractures, dislocations, stiff joints, sprains of muscles, deformities of the spine are some of the conditions to which described methods are applied, together with some constitutional diseases. Consideration of a given condition includes brief reference to etiology, pathology and symptoms, particular attention in treatment being included under physical treatment. This is described in detail for its remedial effect following fractures or dislocations. Stiff joints following injuries are relieved by physical measures, with illustrations exemplifying the text. As a supplement to other forms of treatment, useful therapy is outlined in this volume.

SURGICAL DIAGNOSIS. By Stephen Power, M.S. (Lond.), F.R.C.S. (Eng.), Assistant Surgeon, London Homeopathic Hospital, etc. With 51 Illustrations and 15 Plates. 228 pp., \$4.50. The Williams & Wilkins Company, Baltimore, 1939.

As indicated in the title, the contents of this book belong only to diagnosis with no reference to treatment. The author covers a wide range of topics, including surgical conditions of bones, hand, feet, head, breast and other organs, paying attention also to special diseases as hernia, appendicitis, gallbladder, intestinal obstruction. In brief space generally accepted symptoms and diagnostic signs are assembled for the diagnosis of a large number of surgical conditions.

DIRECTORY OF MEDICAL SPECIALISTS Certified by American Boards, 1939. Paul Titus, M.D., Directing Editor. 1573 pp., \$5.00. Columbia University Press, New York, 1940.

This volume, authorized by the Advisory Board for Medical Specialists, lists the names, addresses and biographic data of more than 14,000 specialists certified to date by the American Boards. Hitherto, each of the twelve special examining boards and two affiliate boards have published

lists of their respective diplomates. This directory is designed to coordinate the work of all these boards by combining their activities in one volume. It is proposed to issue revised editions of the directory every two years. Its value in emphasizing the importance of certifying real specialists can be readily appreciated.

REPORTS ON MEDICAL PROGRESS, 1939, As Published in the New England Journal of Medicine. Compiled and Edited by Robert N. Nye, M.D. 562 pp., \$5.00. Little, Brown & Company, 1940.

The reports in this volume came from fifty-four contributors, members of the faculty of Harvard Medical School or connected with Boston hospitals. Each possesses the virtue of comparative brevity, followed by references, some of which are quite voluminous. They are chosen to cover the specialties and commonly encountered aspects of general medicine and surgery. About two-thirds of the pages are devoted to medicine, the remaining third covering surgery, obstetrics, gynecology, urology and similar subjects. By its perusal one can obtain information of the latest progress in many medical and surgical fields.

CANCER IN CHILDHOOD and a Discussion of Certain Benign Tumors. Edited by Harold W. Dargeon, M.D., F.A.A.P., Attending Pediatrician, Memorial Hospital for Cancer and Allied Diseases, New York, etc. Illustrated. 114 pp., \$3.00. The C. V. Mosby Company, St. Louis, 1940.

It is the general impression that cancer is mainly a disease of middle or old age, and there has been little clinical study published of its existence in childhood. This volume presents evidence of the presence of a large variety of malignant and benign tumors among children. There are chapters on malignant tumors, lymphomas and allied disorders in children, cancer of genitourinary and reproductive organs, as well as in other parts of the body, each being written by individual authors. This review of the literature furnishes evidence of rather frequent occurrence of benign and malignant tumors in infants and children with the specific nature of their problems. Vivid photographs illustrate many of them.

TRUTH ABOUT MEDICINES

PROPAGANDA FOR REFORM

Sulfathiazole and Sulfamethylthiazole. Recently there have been reports that two derivatives of sulfapyridine, sulfathiazole (2(para-amino-benzene-sulfonamido) thiazole) and sulfamethylthiazole (2(para-amino-benzene-sulfonamido) 4-methylthiazole), give some promise of therapeutic effect. The Council on Pharmacy and Chemistry of the American Medical Association has not given consideration to the acceptability of the names sulfathiazole and sulfamethylthiazole. However, since the medical profession has such interest in sulfanilamide and its derivatives, the Council asked Dr. Perrin H. Long to prepare a preliminary report on these two substances. Dr. Long reports that it is too early to pronounce on the comparative clinical therapeutic effects of sulfathiazole and sulfapyridine, but that experience to date indicates that sulfathiazole is about as effective as sulfapyridine in pneumococcal pneumonia in human beings and at least as effective as sulfapyridine, if not more so, in staphylococcal infections in man. Dr. Long concludes: "The evaluation of these new chemotherapeutic compounds will necessitate extensive experimental and clinical investigations in order to determine their efficiency in the control of infections and their clinical toxic manifestations. Until the time when such data are in hand, it is to be hoped that enthusiasms do not outrun common sense." The Council concurs with the conclusions of Dr. Long. The two preparations have not been licensed by

the Food and Drug Administration for sale in interstate commerce (as new drugs). This gives opportunity for the medical profession to be informed about the drugs before they are exploited. No firm has submitted these drugs for consideration by the Council. (J. A. M. A., March 9, 1940, p. 870).

Thiazole Derivatives of Sulfanilamide. The introduction of sulfanilamide into American therapeutics early in 1937, as was to be expected, was soon followed by the presentation of a derivative representing a combination of pyridine and sulfanilamide, which received the nonproprietary term sulfapyridine. Now come reports of two more derivatives of sulfanilamide—sulfathiazole and sulfamethylthiazole. A preliminary report of the Council on Pharmacy and Chemistry, prepared by Dr. Perrin H. Long, on these substances appears in *The Journal*, March 9, 1940, p. 870. All of these sulfanilamide derivatives are quite similar in their basic character. One group of workers (Herrell and Brown) have stated that sulfamethylthiazole has been found efficient in the treatment of some infections caused by staphylococcus organisms. Further investigation of the effectiveness of the compound in diseases caused by staphylococci is decidedly in order, for if the product is found to be of value in these diseases it certainly will have advantages over sulfanilamide. Again it is fortunate that the product has not been placed on the open market before physicians are

(Continued on Page 198)

CALORIE COMPUTATIONS



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given an opportunity to know more about it. (J. A. M. A., March 9, 1940, p. 873).

Court of Appeals Rules Against Brinkley. Last week the United States Fifth Circuit Court of Appeals of New Orleans upheld a federal district court decision in the libel suit brought by John R. Brinkley against the editor of *Hygeia*. The statement of the court in making this decision was as follows:

"We are spared the necessity of discussing the assignments of error in this decision and of reviewing the evidence. It is sufficient to say that the evidence of the plaintiff, placed on the stand by the defendant, tends to show the truth of the statements of fact complained of, and we find no substantial evidence tending to show the defendant was actuated by malice or that plaintiff suffered any actual damage compensatable in money." (J. A. M. A., March 9, 1940, p. 874.)

Oxygen-Carbon Dioxide Mixtures. In considering the acceptance of a submitted oxygen-carbon dioxide mixture, the Council on Pharmacy and Chemistry asked the assistance of Dr. Alvan L. Barach, Assistant Professor of Clinical Medicine at Columbia University College of Physicians and Surgeons, New York. Dr. Barach's report on the acceptance of the submitted preparation (description of which was published in *The Journal*, Sept. 9, 1939, p. 1033), also included a general consideration of the use of oxygen-carbon dioxide mixtures. In his report Dr. Barach has considered the physiologic functions of carbon dioxide therapy, its clinical application, the contraindications to its use, and methods of administration. The Council adopted Dr. Barach's report and authorized its publication in full, together with an expression of appreciation to Dr. Barach for his report. (J. A. M. A., March 23, 1940 p. 1077).

Science and Sal Hepatica. According to the radio advertising of Sal Hepatica, a scientific research conducted by leading medical magazines indicates that a high percentage of doctors always prescribe a saline laxative when treating a common cold. Of course the names of the leading magazines are not given. Part of the scientific story is the claim that Sal Hepatica is the "mineral salt laxative that does two things, not just one; it rids the body of waste and it also combats acidity." The history of Sal Hepatica is a strange commentary on the kind of science that used to be sold to credulous Americans. In 1911 Sal Hepatica was advertised as a uric acid solvent, said to be indicated in stomach, liver and kidney disorders, and especially beneficial in rheumatism and gout. In 1916 it was promoted because it was said to be useful in the treatment of pyorrhea. By 1929 it was called the American equivalent of European spas, and listeners were told that it was good also for headaches, colds, rheumatism and autointoxication. Actually there is nothing to Sal Hepatica according to recent analyses except Glauber's salt, baking soda and tartaric acid, common salt, sodium phosphate, a trace of lithium carbonate and water. Any doctor knows what that is good for and a variety of conditions which it is not good for. (J. A. M. A., March 23, 1940, p. 1082.)

Another Bald Fraud. "Linday's New Hair Compound." The Bureau of Investigation of the American Medical Association reports that "Linday's New Hair Compound" has run afoul of the Post Office Department and been debarred from the mails. The fraud order was made to cover the firm names "Linday" and "Linday Laboratory," New York. On Nov. 22, 1935, the Federal Trade Commission announced that it had ordered this company to cease and desist from making false and misleading representations for its product as a "hair restorer." Linday's New Hair Compound was advertised and sold through the mails as a treatment for growing hair on persons already bald as well as those inclined toward baldness. Government chemists who analyzed this preparation reported that it was essentially a mixture of lard, castor oil, cottonseed oil, cod

liver oil, witch hazel, bay rum, saltpeter, beta-naphtha, kerosene and bergamot oil. The evidence showed that there is no known drug or combination of drugs which will correct all causes of loss of hair; that the product in question when applied as directed would not reach the so-called hair root or papilla; and that the promoter's representation that the mixture would "bring in a real re-growth of hair" on bald-headed persons was false and fraudulent. As the defendant did not offer acceptable evidence to show why a fraud order should not be brought against him, such an order was issued on June 16, 1939. (J. A. M. A., March 23, 1940, p. 1097.)

S. S. Certified and Silver Seal Treatments. The Bureau of Investigation of the American Medical Association reports that a concern doing business from Carthage and Joplin, Mo., under the names Silver Seal Company and Quickade Company, and their officers and agents as such, were debarred from the mails by a Post Office fraud order on Dec. 12, 1938. The moving spirit in the enterprise was a Maynard L. Durham. He claimed that his "S. S. Certified Treatment" "moved many stubborn, exceptional delays quickly." Altogether there were three preparations, "S. S. Certified," "S. S. Certified Special" and "S. S. Certified Guaranteed." The promoter admitted that all three of them were made from the same formula, which was: Ergotin, 1 gr.; extract cotton root, 1 gr.; extract black hellebore, 1 gr.; aloes, 1 gr.; ferrous sulfate, 1 gr.; oil of savin, $\frac{1}{4}$ min. On Aug. 17, 1937, the Federal Trade Commission announced that it had ordered the Silver Seal Company of Carthage, Mo., to cease making unwarranted claims for its "Silver Seal Treatments," apparently another name for the ones described above. (J. A. M. A., March 30, 1940, p. 1283.)

D.D. Strength Favorite Regulators and Two Other C. O. Myers "Cures." The Bureau of Investigation reports that from Kansas City, Mo., a C. O. Myers operated, under the trade names Myco Company and Myces Company, a mail order business selling nostrums for delayed menstruation, hemorrhoids and premature ejaculation. "D.D. Strength Favorite Regulators" are recommended for "Irregular, Suppressed, Overdue or Delayed Monthly Periods from unnatural causes or from irregular, delayed, painful or profuse flow . . ." Also "for extra stubborn cases our Duo-Regulators are well recommended by many ladies who used them with good results." "D.D. Strength Favorite Regulators" were reported by government chemists to consist of: Extract cotton root 1 gr., ferrous sulfate excis. 1 gr., aloe 1 gr., ergotin bonjean P.T. 1 gr., ext. black hellebore 1 gr., oil savin $\frac{1}{4}$ gr. It was brought out in the memorandum of the Post Office Department that there are no known drugs which, taken by mouth, will produce the ovulation necessary to menstruation if endocrine dysfunction is present. Myers' "Triple Treatment" was claimed to be "a complete pile relief . . ." The government chemists reported on the treatment as follows: "Triapila consists essentially of petroleum with ephedrine. Triapila Tablets: Unable to detect anything other than milk sugar, starch and acid soluble material. Lax-A-Wafers: Consist essentially of phenolphthalein." Medical testimony showed that these preparations did not constitute an effective remedy or cure for any form of piles, since they could not remove or beneficially affect all the causative factors. Myers' treatment for premature ejaculation was "Pro-Long-Zit." According to the government chemists it consisted essentially of quinine urea hydrochloride incorporated in a cold cream base with 14.47 per cent water and perfume. Because of the various misrepresentations made for Myers' products, a fraud order was issued September 20, 1938, against the man, also covering the names of his Myco Company and Myces Company. Back in September, 1933, the Federal Trade Commission announced that it had prevailed on C. O. Myers to sign a stipulation promising to cease and desist from making "false or misleading" representations for his "Favorite Regulator." (J. A. M. A., March 30, 1940, p. 1283.)

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Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

EDITORIALS

MEDICAL WAR CAMPAIGN

News from abroad is startling in its revelation of the situation confronting the Allies. Seldom in history have strong nations been so suddenly confronted with disaster, so overwhelmed by surprise attack. Yet in looking at the whole picture it is quite evident that the present state of affairs is no surprise, that the Allies have actually been oblivious to the happenings in Germany which long ago indicated the turn which affairs would some day take. It seems to be well authenticated that the British Government has long had accurate information as to the size and formidableness of the German air force, yet chose to disbelieve or ignore its own agents. There is no question but that many of the recent acts of the Germans were long ago outlined by Hitler in his book, *Mein Kampf*. The Allies have, then, complacently done nothing, while Germany for seven years was furiously making ready for the attack which is now described as a surprise.

In recent years, the medical profession has been in almost exactly the same position as that occupied by the Allies before the current war. We have been attacked by lecturers, pamphleteers, small organized groups, the federal government itself. We, also, have seen the Trojan horse, felt the effect of the fifth column. Our downfall has been forecast, the methods for our destruction have been outlined, the foundations of revolution in medical practice have been laid. We have suffered insult, derogation, calumny and slander.

These things have long been known to those officers of our associations who have been confronted with the real problems faced by the medical profession. They have long told us of the troubles ahead, the dangers on all sides, the necessity for action. Yet the rank and file of the profession has preferred to forget, to disregard, to neglect. Our defense has become woefully weak, our tactics long outmoded. We are in no position to face the blitzkrieg which sooner or later is bound to descend upon us.

The one ray of hope, the single instrument with

which we may meet and defeat our enemies is the National Physicians Committee for the Extension of Medical Service. This organization is composed of men who well know the dangers to which the medical profession is exposed and who are willing and able to take vigorous steps to combat them. It was organized by men of long experience in affairs of the medical profession, in whom can be placed the utmost trust and confidence. It will lead the way in which we must go to preserve our present high standard of medical service. It needs our undivided support and encouragement. With its help we will avoid the unfortunate situation now held by the demoncracies which are fighting for their very lives.

PROGRAM OF ANNUAL MEETING

An annual meeting of the state medical association is an established, necessary feature. At this assembly are determined business, organization and economic proceedings which are indispensable for existence. Much attention is paid to social aspects of the meeting, which are essential to maintain good fellowship and harmonious relations for the success of the organization. These various features serve as attractions to bring together members from all parts of the state, making it the outstanding and important meeting of the year.

At the same time this occasion offers the supreme opportunity for members to demonstrate to one another the progress they have made in expanding their opportunities of scientific development, and the advances which they have made in research and independent investigations. Members capable of such accomplishments are found in all of our state organizations. While many of them take advantage of county society meetings for exhibits of their individual accomplishments, these are presented before small audiences. Every physician, who has accomplished something worthwhile, desires to demonstrate his achievements before a large audience of fellow practitioners.

These are some of the reasons why the program of the annual meeting should include papers offering evidence of the accomplishments of the members of their organization. Not only does reading of such papers demonstrate what the individual physicians have attained, and encourage them to continue along systematic and original lines, but the presentation of their work is a source of instruction to others and gives them an opportunity of receiving assistance from the successful procedures of their fellow practitioners. Many members of our state

associations believe and have asserted that a program of papers from our own members should be the main feature of the program of the annual meeting.

During recent years there has developed the plan of making the annual meeting, either in part or entirely, a program of postgraduate instruction, featuring representatives from various teaching institutions in the belief that this will be a drawing card to induce larger attendance. It has been frequently demonstrated that such a procedure is a damper, or even a death blow, to scientific enterprise on the part of the members. Whenever this plan has been adopted completely, there has been a striking dearth of original scientific investigations on the part of the membership, as indicated by their lack of demonstrations before state organizations. One can recall state meetings in past years largely attended, replete with discussions and recognized as amply successful, where the entire program consisted of papers presented by the membership.

By no means would one attempt to deprecate the instruction and benefits derived from postgraduate lectures. Their importance and necessity are witnessed in all our states by the courses of lectures and clinics which are scheduled in our larger cities, with extensions either in existence or planned for smaller cities. Continually during the year special groups and societies bring outstanding leaders in the profession for a single lecture or a course of postgraduate clinics and addresses. We do not receive any too many of such sources of education. At the same time, care should be taken not to suppress or smother the scientific efforts of our own members. This matter of the setup of the program for the annual meeting is well deserving of careful consideration and discussion.

QUIET IN THE HOSPITAL

Criticism is of two kinds. It may be destructive or constructive. True constructive criticism is never objectionable; it is always given in the spirit of cooperation and helpfulness and should be given serious consideration by its recipient. It has been apparent for some time that the medical profession and associaed institutions have been receiving both types of criticism. The destructive type is being well answered by various organizations set up for the purpose. The constructive might well be given more attention.

The following kindly editorial published in a city paper of recent date is a splendid example of cooperative constructive criticism. It states a truth

which is well known to every patient who enters a modern hospital, a truth which applies to hospitals not only in this but all other cities. It is one of the smaller things which needs correction. Every hospital superintendent should give this editorial his careful consideration. The editorial in full is as follows:

"In this business world, when a product ceases to give consumer satisfaction, or when an organization ceases to provide a service that meets with popular demand, both start to slip. The public wants service, it wants what it feels it is entitled to receive for the money it pays.

"Now, we do not wish to infer that our hospitals charge too much, or that they indulge in any dangerous practices, for such is not the case. Our criticism of local hospitals has to do with those little things that make or break an institution in the eyes of the public.

"Our hospitals are noisy, far too noisy. Too frequently nurses bang through doors, and we do mean bang. These same angels of mercy are most careless in the handling of dishes and pans. The noise is nerve racking to the sick and disturbing to the ill; in fact noise, noise and still more noise is driving paying guests from some hospitals and earning a reputation for these local institutions that is far from desirable.

"The voice of complaint is rising higher among those people in our city who can afford to enjoy hospital service, and this is bad, for a little more care on the part of hospital management could correct the situation to the mutual benefit of all. And this is our tip to all of our hospitals: within your four walls live up to the sign on the lawn outside, which reads Quiet, Hospital."*

*Names of paper and city have been deleted.

MEDICAL LIBRARY ASSOCIATION MEETING

The annual meeting of Medical Library Association will be held in Portland June 25-27. Founded in 1898 and incorporated in 1934, this organization is composed of medical libraries in states from all parts of the country and in Canada, as well as allied scientific libraries of not less than 1000 volumes. It includes practically all the medical libraries of this country which are going concerns.

The purpose of this association is to group medical libraries for the betterment of their conditions through the interchange of opinions and methods and similar objectives. The most important practical advantages are derived from exchanges through its clearing house, by which members of the Association may dispose of their duplicate medical books and journals no longer wanted by them and secure additions for their libraries. Members of the Association periodically send exchange lists of superfluous literary material, from which lists are made and sent to all the membership libraries. From this one may obtain desired books and copies of journals needed to complete volumes with missing numbers. This procedure may be of inestimable value to complete the contents of a library.

Presidents of Medical Library Association in past years have included distinguished members of the medical profession, as well as laymen. This year the president is Col. Howard W. Jones, a physician, librarian of Army Medical Library, Washington D. C., the greatest medical library in the world. The program includes exhibits and papers pertaining to medical libraries, medical history and biography. Sessions will be held in the new medical library of University of Oregon which contains the latest and most complete requirements of an efficient medical library. An invitation is extended to all physicians interested in medical libraries to attend this meeting and participate in its interesting and profitable program.

THE A. M. A. MEETING

While this issue is in press the great annual meeting of American Medical Association is convening in New York. Our states of the Pacific Northwest will be amply represented. All who have the privilege of attending this meeting are to be congratulated, and those unable to be present should be duly regretful. Whenever the opportunity presents itself, one should attend this annual meeting.

The multitude of scientific subjects discussed in different sections is so great that no one can aspire to participate in anything more than a small portion of the many attractions. One must select that which has a personal interest and pass by the greater part of the program. At this meeting, as in all in recent years, the focus of attention will be the scientific exhibits. Here one can receive instruction not only by the spoken word, but by demonstrations which are always more impressive and educational than the written word which one can study at his leisure. While a detailed description of this great meeting cannot be anticipated in a journal of our dimensions, next month's issue will offer some comments on what seemed to be outstanding features.

ADVERTISERS COUPONS

Attention of the readers of this journal is called to coupons published in connection with certain advertisements which appear from month to month. The purpose of these coupons is to give the reader an opportunity for obtaining additional information of the advertised product, at the same time giving the advertisers an occasion for sending samples illustrative of the advertisements. By clipping the coupon and sending it with the reader's name and address to the advertiser, it will serve the double purpose of demonstrating interest in the product in question, and obtaining evidence of its value.

ORIGINAL ARTICLES

HYPERTENSION*

NEWELL C. GILBERT, M. D.
CHICAGO, ILL.

Any discussion of hypertension is an account of a voyage into a "terra incognita," of which little is known except something of a dangerous coast line, with a few bays and inlets offering safe harbor, and some highlands, distant but very alluring. I shall try to confine myself to the part which is at least partially surveyed and charted.

There is a wide divergence of opinion as to just what should be considered as a normal blood pressure. Robinson and Brucer¹, in a recent statistical study of about 12,000 cases, found that many of the figures previously considered to represent normal values are too high. They would consider that normal systolic readings should vary from 90 to 120 and the normal diastolic range is from 60 to 80. In this study pressures above 120/80 tended to rise with age, and pressures below that figure tended to remain at the lower level throughout life. The normal daily and yearly variations of pressure in the group which they consider normal were slight, ranging from 5 to 15 mm. The hypertension group showed a wider variation.

The normal level was usually reached at adolescence and in their opinion this level did not increase with age. They conclude that a blood pressure is more normal which occasionally drops down to below 100/70 or even lower. What has been considered hypotension is regarded very favorably indeed, and is considered a rather ideal condition, especially as regards longevity. Occasional excursions of the blood pressure to higher levels is regarded as possibly indicating a tendency to a permanent hypertension, and there is a constant tendency for high blood pressure to become higher blood pressure.

The figures of Robinson and Brucer are, as has been stated, lower than that given by most authors, but are not essentially different from those of Symonds². While blood pressure does in general increase with age, this does not necessarily mean that the increased pressure is a normal process. Robinson and Brucer show, as has been indicated by others, that life expectancy begins to show a

decrease in cases where the blood pressure exceeded that which they consider as normal, and the decrease in life expectancy grows greater as the blood pressure values increase.

Diehl and Hesdorfer³, in a follow-up study of university students who showed an elevation of blood pressure during their college years, transient in some cases, concluded that those students were more likely to have higher blood pressures in later years than those with normal pressures. This study covered five and ten year periods.

This is of clinical importance in only one regard. There are a few cases where some reason may be found for the elevation in blood pressure, and where early care will prevent further advance, or may even produce a recession. Unfortunately, the latter result is rare. Unless something definite is found, it is best to give only general advice, avoiding calling too much attention to the blood pressure.

It has long been observed that there was a tendency to increased blood pressure with increased body weight. Symonds found that in accepted insurance risks, a group of individuals well within normal limits as to health, the heavier group showed blood pressures ten points higher than the lighter group. Robinson and Brucer also found that overweight individuals tended toward the higher levels of blood pressure, and underweight individuals toward the lower levels.

Just how much difference there is in blood pressure levels between different races and different geographic locations, or between urban dwellers and those in rural communities, is not certain. In primitive peoples, out of contact with civilization, blood pressures would appear to be lower. Donnison⁴ found hypertension to be very rare among primitive negroes in Africa, and Nye⁵ found none in primitive Australian peoples. Data as to the Eskimos vary and are probably influenced by the degree of contact with civilization and those examined.

With each individual there are variations during the day, the blood pressure assuming a lower level during the early morning hours, as from 1 to 4 a. m., and this very gradually reaches its high point for the day some time in the late afternoon. This becomes of some clinical significance at times, and,

*Read before the Twenty-third Annual Graduate Medical Lecture Course, University of Washington, Seattle, Wash., July 17-21, 1939.

1. Robinson, S. C. and Brucer, M.: Range of Normal Blood Pressure; Statistical and Clinical Study of 11,283 Persons. *Arch. Int. Med.*, 64:409-444, Sept., 1939.

2. Symonds, B.: Blood Pressure of Healthy Men and Women. *J.A.M.A.*, 80:232-236, Jan. 27, 1923.

3. Diehl, H. S. and Hesdorfer, M. B.: Changes in Blood Pressure in Young Men Over Seven Year Period. *Arch. Int. Med.*, 52:948-953, Dec., 1933.

4. Donnison, C. P.: Blood Pressure in African Native; Its Bearing Upon the Etiology of Hyperpiesia and Arteriosclerosis. *Lancet*, 1:6-7, Jan. 5, 1929.

5. Nye, L. J. J.: Blood Pressure in Australian Aboriginal, with Consideration of Possible Etiological Factors in Hyperpiesia and Its Relation to Civilization. *M. J. of Australia*, 2:1000-1001, Dec. 4, 1937.

for example, may be one determining factor in the occurrence of attacks of angina pectoris, in cases where the decreased pressure results in a coronary volume flow decreased past a critical point.

Blood pressure also varies with the events of each day. It rises normally with exercise, with mental work or emotion, worry, fear, pain, cold and many other conditions. It tends to fall in the rest which follows exercise and it falls with fatigue. That it falls with calm and composure is worth mentioning to your patients.

Blood pressure also shows variations over long periods, dependent upon many factors. In some there seem to be succeeding waves of higher and lower pressures, with many days or weeks between the crests. I have frequently suspected that such waves accounted for some of the good therapeutic results obtained by some very doubtful agents. I remember once in my earlier days when benzyl benzoate was in vogue, I used it with what appeared to be most excellent results in one patient with hypertension. The pressure fell, and when it had reached what I considered a satisfactory level, I would discontinue the drug. In a couple of weeks or so, the pressure would rise, and I would resume medication with the same satisfactory results. This was repeated for some time until it occurred to us both to see what would happen if medication were omitted. The course of events was exactly the same as with medication.

When we come to a consideration of hypertension, one thing must be borne in mind from the start. High blood pressure is not a disease of itself but a symptom. Just what it is a symptom of is not always quite so clear, but at least each year we are learning more and more in regard to this, and reducing the percentage of cases of unknown and indefinite origin. The possibilities are too numerous to mention here. Most clues lead back to the kidney.

In the lay mind hypertension is closely associated with arteriosclerosis. And it is true that this does occur earlier and is often more marked in patients with hypertension. But arteriosclerosis of itself in some degree is the common lot of old age, and is perfectly compatible with normal blood pressure. And high blood pressure usually long precedes arteriosclerotic changes in the larger vessels.

I think that no one will question the assumption that increased blood pressure is due to an attempt on the part of the body to overcome an increased peripheral resistance. An increase in cardiac output is a frequent cause of transient in-

crease in blood pressure, but we are sure that it is not a factor in hypertension, as such. Increase in heart rate may be a factor in the increased blood pressure observed in aortic insufficiency, where the increased pressure is a compensatory factor. But an increase in rate is not a factor in hypertensive disease. In fact, the rate is often slower than normal in hypertensive conditions. It has also been shown that increase in blood volume or increase in blood viscosity are not factors.

Both clinical and experimental evidence point to an increase in peripheral resistance as being responsible for the increased pressure. It would seem an established fact that the increased peripheral resistance is due to a narrowing of the smaller arteries and arterioles throughout the body generally. How uniform this is, or if it is uniform at all, we are not altogether certain. Investigation carried on at the Mayo Clinic would indicate that it is not uniform, that it affects certain organs and tissues more than others, affecting the heart less, for example, and the kidney more. One would expect to find varying comparative results between one tissue and another in different individuals.

It was long supposed that primary changes in the vessel walls of the arterioles was the reason for the increased peripheral resistance. That pathologic changes in the vessels are present, resulting in a narrowing of vessel calibre, we know. Gull⁶ suggested this in 1872. Such changes have been shown in biopsy material obtained from hypertension cases by Kernahan, Anderson and Keith⁷ who found that the ratio of wall to lumen in non-hypertensive cases was in the mean 1:2, in benign hypertension 1:1.4, and in malignant hypertension 1:1.1.

Not only in the later stages, but in earlier stages, are such anatomic changes found. But the evidence suggests that such changes in the vessel walls are not of themselves primary, but are the result of long-standing vasoconstrictor effects, and are at the onset a work-hypertrophy. The hypertension is the cause and not the effect of the vascular changes.

On the other hand, localized primary vascular changes may possibly initiate the narrowing of the arteriolar bed which is generalized throughout the

6. Gull, Sir William and Sutton, H. G.: On Pathology of Morbid State Commonly Called Chronic Bright's Disease with Contracted Kidney. Tr. Royal Med. & Chirurg. Soc. London, 55:273-330, 1872.

7. Kernohan, J. W., Anderson, E. W. and Keith, N. M.: Arterioles in Cases of Hypertension. Arch. Int. Med., 44: 395-423, Sept., 1929.

8. Cain, E. F.: Malignant Hypertension; Histologic Changes in Kidney. Arch. Int. Med., 53:832-850, June, 1934.

body. Cain⁸ found the ratio of wall to lumen to be less than 1 to 1 in a series of hypertensive kidneys as compared to 1:1.1 in arterioles removed from muscle, a finding in correlation with Goldblatt's experimental work.

If the increased peripheral resistance is due primarily to a narrowing of the smaller arteries and arterioles, such a narrowing might be due to vasoconstriction, either due to impulses carried by the nervous system, or to some chemical agent circulating in the blood. Both possibilities must be considered, and there is a great deal of evidence that some nervous element may be present. So far, the evidence has not been altogether conclusive.

Whatever part some nervous mechanism may play in producing tonus of the vessel walls, or in failing to relax tonus in some cases, there is an increasing amount of experimental and clinical evidence which indicates that in many cases, at least, a chemical factor is responsible for the primary narrowing of vessel lumen.

The work of Goldblatt⁹ would seem to indicate very clearly that a humeral substance from the kidney may initiate a hypertension in dogs, rabbits and monkeys, comparable in every way to that in man, and resulting in similar vascular pathology. Goldblatt used a clamp by which he could constrict the renal artery to any desired degree and produce any desired degree of ischemia in the kidney. If the artery on one kidney only was constricted, the effect was only temporary. If both kidneys are rendered partially ischemic in this way, permanent hypertension results with characteristic vascular changes and cardiac hypertrophy. It occurs in the denervated kidney as well. Hypertension occurs when a kidney is transplanted to the neck, so that no nervous connections are possible, and is rendered ischemic. It occurs in a normal dog, if a kidney previously rendered ischemic is

transplanted to that dog. It occurs after complete removal of the sympathetic chain.

A great many investigators, using the Goldblatt technic, have confirmed his work, and ruled out every possible factor except some humeral factor derived from the ischemic kidney. In addition, Fasciolo, Houssay and Taquini¹⁰ have been able to show that there is an actual vasoconstrictor agent present in the blood from the renal vein of a Goldblatt dog.

Hypertension has been associated with disease of the kidney since the time when Bright first associated kidney disease with cardiac hypertrophy. The largest group of hypertension cases, in which there is some known reason for the symptoms, is that group which includes various types of kidney disease. The largest part of the group consists of those cases classified as chronic glomerular nephritis. Acute glomerular nephritis may also produce a hypertension in part of the cases.

Pyelonephritis shows hypertension in most cases. In cases where there is a hypertension with one pyelonephritic kidney, removal of the affected kidney may result in a return of the blood pressure to normal, a clinical confirmation of Goldblatt's experimental work. Butler¹¹ reports such a case, and Culver¹² has recently seen three such cases.

Further clinical confirmation is found in the reports of Leadbetter and Burkland¹³ and Boyd and Lewis¹⁴ of the return of hypertension to normal levels after removal of kidneys rendered ischemic by narrowing of the renal artery. Tumor of the kidney may also cause hypertension, with a fall to normal on removal of the tumor.

Hypertension is not due to any loss of kidney function. Removal of body kidneys experimentally does not produce hypertension, and clinically, in a case where a traumatized kidney was removed and later found to be the sole kidney, there was no hypertension. In mercury nephrosis, hypertension does not uniformly develop.

Death in hypertension is most frequently a cardiac death, due to inadequate blood flow to a hypertrophied heart muscle with consequent failure.

The work of Goldblatt and his associates would seem to indicate that at least one factor was a

9. Goldblatt, H., Lynch, J., Hanzal, R. F. and Summer-ville, W. W.: Experimental Hypertension Due to Renal Ischemia. *Bul. Academy Med.*, Cleveland, 16:6, 1932; Studies on Experimental Hypertension; Production of Persistent Elevation of Systolic Blood Pressure by Means of Renal Ischemia. *J. Exper. Med.*, 59:347-379, March, 1934.

Goldblatt, H.: Studies on Experimental Hypertension; Production of Persistent Hypertension in Monkeys (macaque) by Renal Ischemia. *J. Exper. Med.*, 65:671-675, May, 1937; Studies on Experimental Hypertension; Pathogenesis of Experimental Hypertension Due to Renal Ischemia. *Ann. Int. Med.*, 11: 69-103, July, 1937; Experimental Hypertension Induced by Renal Ischemia. *Harvey Lect.*, 33: 237-275, 1937-38.

Goldblatt, H., Gross, J. and Hanzal, R. F.: Studies on Experimental Hypertension; Effect of Resection of Splanchnic Nerves on Experimental Renal Hypertension. *J. Exper. Med.*, 65:233-241, Feb., 1937.

Goldblatt, H. and Wartman, W. B.: Studies on Experimental Hypertension. Effect of Section of Anterior Spinal Nerve Roots on Experimental Hypertension due to Renal Ischemia. *J. Exper. Med.*, 66: 527-534, Nov., 1937.

Goldblatt, H. and Kahn, J. R.: Experimental Hypertension; Constriction of Aorta at Various Levels. *J. A. M. A.*, 110: 686, Feb. 26, 1938.

10. Fasciolo, J. C., Houssay, B. A. and Taquini, A. C.: Blood Pressure Raising Secretion of Ischemic Kidney. *J. Physiol.*, 94:281-293, Dec. 14, 1938.

11. Butler, A. M.: Chronic Pyelonephritis and Arterial Hypertension. *J. Clin. Investigation*, 16:889-897, Nov., 1937.

12. Culver, H.: (personal communication).

13. Leadbetter, W. F. and Burkland, C. E.: Hypertension in Unilateral Renal Disease. *J. Urol.*, 39:611-626, May, 1938.

14. Boyd, C. H. and Lewis, L. G.: Nephrectomy for Arterial Hypertension. *J. Urol.*, 39:627-635, May, 1938.

humeral substance, transmitted through the blood stream. This is further confirmed by reference back to the pressor substance described by Tigerstedt and Bergman¹⁵ and called renin, and work in the last four years done by Prinzmetal and Friedman¹⁶, Harrison, Blalock, Mason and Williams¹⁷, Landis, Montgomery and Sparkman¹⁸, and others who have obtained a pressor substance from the kidneys of dogs and rabbits, and thought the tissue extract of an ischemic kidney produces a greater pressor effect than that of the normal control kidney.

The great majority of the cases of hypertension which we see in our own practice belong to the group rather loosely classified as essential hypertension. We have as yet no evidence to substantiate any opinion which we might hold as to the primary origin of this condition. It is possible that different factors may be responsible in different cases for initiating the train of events which lead to the condition.

The kidney is involved in essential hypertension, but from what we know now the changes in the kidney are a part of the generalized vascular changes. Hypertension precedes any loss of kidney function, and in many cases of hypertension, kidney function may remain normal for long periods, or even into the terminal stages. Death is not as frequently a kidney death as it is a cardiac death or death due to a cerebral accident.

The sequence of events in Goldblatt's experimental dogs—persistent hypertension, arteriolar changes, renal failures, albuminuric retinitis—so closely follows the sequence of events in the clinical cases, that it would seem as though this work must be of significance in explaining essential hypertension. The work of Pickering¹⁹ and of Prinzmetal and Wilson²⁰ indicates that increased resistance in the arterioles is due to a chemical stimulus and is not one of nervous origin. Goldring²¹ has shown a

decreased blood flow through the hypertensive kidney, which would give further support to this theory. On the other hand, no one has been able to show a pressor substance in the blood of hypertensive patients.

Even if an overactivity of vasomotor nerves can not be proved, or its origin demonstrated, we can not overlook entirely the possibility of a nervous mechanism playing a part in the process somewhere at some time. It might, for example, initiate vasomotor changes which are responsible for the changes which produce the chemical element.

Grimson, working in Heymann's²² laboratory in Ghent, conceived the idea of denervating all of the sympathetic nervous system of a dog except the renal outflow. When this was done and after the depressor and moderator nerves were cut, a severe fatal hypertension developed. This could be prevented or relieved by denervating the kidneys. The only organ to receive any sympathetic stimulation was the kidney, and this it received without the balancing effect of sympathetic stimulation upon other organs. The full effect was on the one organ only, and ischemia of the kidney resulted, just as was the case in the Goldblatt dog.

In acute glomerular nephritis with hypertension, Pickering¹⁹ found an increased blood flow through the hand on removal of vasomotor tone, and the increase was proportional to the increased blood pressure, a finding speaking for a vasoconstrictor of nervous origin, and not of humeral origin in this case.

(To be concluded)

22. Grimson, K. and Heymann: (to be published).

ALLERGIC SKIN DISORDERS

A PRACTICAL APPROACH TO THEIR MANAGEMENT*

FRANK PERLMAN, M.D.

FORTLAND, ORE.

The allergic skin disorder is another manifestation of the general state of hypersensitiveness. And so, in the management of this problem, not only must the local condition be cared for, but treatment of the allergic state is equally important, if one hopes for lasting relief. Just as in treatment of thyrotoxic heart disease the toxic gland must be treated or removed, so the basic causes of the skin disturbance must be coped with.

In this discussion description of lesions and local treatment are omitted. That is entirely in the field of the dermatologist. However, the various forms in which allergy may manifest itself on the skin will be mentioned briefly.

15. Tigerstedt, R. and Bergman, P. G.: Niere und Kreislauf. *Skand. Arch. f. Physiol.*, 8:223-271, 1898.

16. Prinzmetal, M. and Friedman, B.: Pressor Effects of Kidney Extracts from Patients and Dogs with Hypertension. *Proc. Soc. Exper. Biol. & Med.*, 35:122-124, Oct., 1936.

17. Harrison, T. R., Blalock, A. and Mason, M. F.: Effects on Blood Pressure of Injection of Kidney Extracts of Dogs with Renal Hypertension. *Proc. Soc. Exper. Biol. & Med.*, 35:38-40, Oct., 1936.

Harrison, T. R., Blalock, A., Mason, M. F. and Williams, J. R.: Relation of Kidney to Blood Pressure. *Arch. Int. Med.*, 60:1058-1068, Dec., 1937.

18. Landis, E. M., Montgomery, H. and Sparkman, D.: Effects of Pressor Drugs and Saline Kidney Extracts on Blood Pressure and Skin Temperatures. *J. Clin. Investigation*, 17:189-206, March, 1938.

19. Pickering, G. W.: Cerebrospinal Fluid Pressure in Arterial Hypertension. *Clin. Science*, 1: 397-413, 1933.

20. Prinzmetal, M. and Wilson, C.: Nature of Peripheral Resistance in Arterial Hypertension with Special Reference to Vasomotor System. *J. Clin. Investigation*, 15:63-83, Jan., 1936.

21. Goldring, W., Chasls, H., Ranges, H. A. and Smith, H. W.: Effective Renal Blood and Functional Excretory Mass in Essential Hypertension. *J. Clin. Investigation*, 17:505, 1938.

* Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Sept. 6-9, 1939.

GENERAL CONSIDERATION

It was only several decades ago that the mechanism of allergy, playing a part in the etiology of many forms of skin disease, was established. Now the skin is classed with nasal, bronchial and intestinal mucosae as a shock organ. Attacks of skin allergy are paroxysmal, with lesions more frequently localized to the face, neck, upper chest, arms and hands. The causative factor is a substance to which the individual is hypersensitive, and which may have been introduced by ingestion, inhalation, injection or contact. Symptoms are aggravated by constipation, focal sepsis, endocrine dysfunction or psychic state.

Onset of symptoms occurs after varying periods following exposure, and each attack disappears less readily until a chronic state is reached. The skin may be generally sensitized by the "depot" method, so that, after repeated local applications of allergens, soon sensitization of the skin becomes general.

SKIN DISORDERS INCLUDED IN THIS GROUP

The following are included in the group of allergic skin disorders. Some are mentioned for sake of differential diagnosis; some, although they are not frank manifestations of allergy, have the principles of hypersensitiveness as causative factors and these same principles may be used in the management.

1. Eczema.
 - a. Allergic (or atopic) eczema.
 - b. Contact dermatitis.
2. Urticaria and angioneurotic edema.
3. Erythema multiforme.
4. Allergic (nonthrombocytopenic) purpura.
5. "Ids."
 - a. Epidermophytosis with epidermophytid.
 - b. Infectious dermatitis with bacterid.
6. Pruritis (ani, vulvae, senile).
7. Erythema nodosum.
8. Dermatitis herpetiformis.

ALLERGIC (OR ATOPIC) ECZEMA

The word eczema is derived from the Greek, meaning to bubble, to boil over or to burst out, and describes excellently the characteristics of the lesions. Eczema is most frequently an allergic manifestation of infancy or early childhood. The factor of excoriation and secondary infection is an important problem in the course of allergic management.

In considering etiology the nonallergic factors must be kept in mind. The mechanical factors of friction, sunlight, heat, bodily secretions and excretions, and chemical irritants such as soaps are important. Digestive upsets, dentition and focal sepsis of teeth and tonsils are common factors. Vaccination accentuates the condition and so it is unwise

to vaccinate an eczematous baby. The eczema may improve or disappear temporarily during an acute infection, especially diarrhea, measles or otitis media.

Allergic factors are of special interest in this discussion. Sensitization may occur in utero as shown by hypersensitiveness to egg at the first feeding of this food. In breast fed babies sensitization to food proteins may occur by transmission through mother's milk. However, most infants become sensitized to egg, milk and wheat through ingestion of these foods. It is interesting to note that these infants have deficient power of secreting hydrochloric acid. In later life sensitization occurs to epidermals and dusts through the respiratory tract. Diagnosis of the causative agent through skin testing is more reliable after the fourth month of life.

Prognosis of allergic eczema is frequently a question presented to the physician by the parents. A few die suddenly, due to toxemia or disturbed skin function. Some desensitize themselves automatically after the age of two years. But in the majority of children the lesions become localized to the cubital and popliteal fossae, and after the second to fifth years the true eczema-asthma syndrome develops.

Treatment of allergic eczema must be directed to local pathology and the allergic state. Treatment of the skin locally is a matter for the dermatologist. However, no local treatment can change an allergic infant into a nonallergic one. In general care prophylactic measures have been employed. Avoidance of overindulgence in some food, especially egg, by the allergic mother in latter stages of pregnancy and during breast feeding, and of overindulgence in wheat and egg by the infant have been advocated. Occasionally sufficient lactalbumin may be removed by boiling, or addition of dilute hydrochloric acid is of aid. However, cow's milk sensitive infants are usually equally sensitive to goat's milk. Sometimes small quantities of foods to which the child is allergic may be given safely with hydrochloric acid added.

A variety of nonspecific measures have been used, including injection of peptone, albumin-free splenic extract, sodium thiosulphate and autohemotherapy. None have withstood the test of time to make them dependable substitutes for specific treatment. Digestive disturbances must be adjusted, and adequate vitamin therapy is necessary. A big factor in perpetuating a chronic state is the presence of focal infection, especially in the intestinal tract, and the secondary infection of the skin. Invariably

culturing for types and number of organisms on the skin and in the intestinal tract, and use of the autogenous vaccine shorten the duration of the eczematous state.

CONTACT DERMATITIS

This is an eruption produced by external or contact irritants. It may occur in nonallergic as well as in allergic individuals. It must, however, be differentiated from true allergic eczema and the following are points which distinguish the two:

1. Contact dermatitis may occur in a nonallergic family or individual.
2. The causative agent is not a water soluble protein, but usually a simple chemical or vegetable oil.
3. Mechanism of production of lesions is by contact.
4. Testing for diagnosis of causative agent is by contact or patch test applied for hours or days.
5. The eruption is erythematous or vesicular.
6. There are no reagins in the blood serum.
7. Treatment includes local measures, avoidance of the offending agent, and use of several intramuscular injections of the oily extract. This is especially true in vegetable oil dermatitis such as poison oak.

The occupational form of contact dermatitis is familiar to all. This includes furriers sensitive to paraphenylenediamine, photographers to pyrogallol, bakers, barbers, dentists and many others. Plant dermatitis, including poison oak, poison ivy, poison sumac and primrose are conditions with which many of you have had personal experience. Treatment includes intramuscular injections of the oily extract. Interestingly, these oily extracts do not effect mucous membranes so that they may be taken by mouth for prophylaxis.

Pollen dermatitis occurs in hay fever patients and in nonallergic patients alike. Treatment by injection of the oily extract of the pollen may here also be used.

URTICARIA

This allergic skin disorder may occur in the acute or chronic form. The lesions are quite characteristic but sometimes may resemble an exanthematous disease.

Causative factors are many, but not infrequently the patient may fail to show frank signs of allergy or positive reactions to skin tests. Foods are frequently the cause in infants and may also be a factor in adults, especially those with other manifestations of allergy. Often the urticaria is associated with general gastrointestinal tract upsets in infants and constipation in adults.

Medication may be the entire cause. Many drugs, including coal tar derivatives, quinine and phenolphthalein, injection of foreign sera, or the biologic products including insulin have explained the eruption. Parasitic infections, especially worms, have been found to produce urticaria. A diagnosis of chronic infestation can be made by testing with the specific antigen. Insect bites, including the bee, mosquito and flea, must be considered. Physical agents, such as heat, light and especially cold, are occasionally the causes. One must never discount psychic states such as strong emotional upset, mental anxiety, continuous mental tension. And lastly, but by far the most important, are chronic foci of infection in the teeth, tonsils, genitourinary tract and gastrointestinal tract, including the gallbladder and appendix.

GIANT URTICARIA, ANGIONEUROTIC EDEMA

This skin disorder is closely related to urticaria, only that it involves subcutaneous tissues. A variety of areas may be involved, including the skin, mucous membranes, gastrointestinal tract producing violent upsets; and even the central nervous system is a possible cause of some cases of epilepsy and migraine. Death may result from edema of vital structures such as the glottis. This condition rarely occurs before the age of twenty and is more common in young adults. The causative factors will include those producing urticaria. Some attacks have been associated with endocrine dysfunction and were explained on the basis of hypersensitivity to the hormone.

Treatment of urticaria and angioneurotic edema may be discussed as one. Relief of immediate symptoms by use of adrenalin and ephedrine may be imperative, but is usually temporary. Local antipruritics and baths offer some comfort.

But the treatment of the more chronic form, and attempts to prevent recurrences are more difficult. Testing with common allergens, removal of those that show skin reactions or specific desensitization are essential. Elimination diet is a blind stab at the fundamental problem. Injection of calcium, pepsin, splenic extract and sodium thiosulphate has helped in isolated cases. Autohemotherapy may be of value, but relief is generally of short duration. In this condition, as in eczema, removal of foci of infection and, when the focus is in the intestinal tract, stool studies and autogenous vaccine therapy, have been the only solution to the problem. This is especially true in those individuals whose sensitivity to specific allergens was not so prominent a factor as was the gastrointestinal tract dysfunction.

PAPULAR URTICARIA

This is mentioned, not because it is an allergic skin disorder, but because it may be confused with urticaria, papular eczema or insect bites. It is extremely common in infants and children and few escape it. Ordinarily the condition disappears spontaneously at puberty. Treatment is not in the field of the allergist. Local symptomatic relief is essential and reducing the fat in the diet often offers marked relief.

ERYTHEMA MULTIFORME

This must be included with the allergic skin disorders. Occasionally it may be associated with food sensitivity. More frequently it is a manifestation of toxemia of some local or general disorder. Hemolytic streptococcus has been found as the most common cause, and tonsillitis often precedes the eruption. We have found bacterial sensitivity a most frequent cause. Autogenous vaccine therapy has been a gratifying means of relief from the persistently recurrent form of this skin disorder.

ALLERGIC PURPURA

(nonthrombocytopenic purpura)

This skin disorder manifests itself in a variety of ways on the skin surface, including erythema, urticaria and purpuric areas. Gastrointestinal crises with cramps, vomiting and diarrhea occur. Swollen, painful joints, especially the knees and ankles, may develop. Other hemorrhagic lesions causing melena and hematuria may result. The blood studies are normal except for high eosinophil count. The attacks may last for from one to ten days, but relapses come in frequent indefinite succession. These patients may have purpura on one attack and urticaria on another.

The allergic factor has gained significance in the past few years. Foods may be frequent causes, especially in children. Drug sensitivity, particularly to coal tar, essential oils and quinine, is not uncommon. Sensitivity to bacteria and their toxins must always be considered.

Treatment must begin with a search for any specific causative allergens. Removal or specific desensitization against them is essential. Here, again, removal of foci of infection and autogenous vaccine therapy are often the only means for permanent relief. For immediate relief adrenalin and ephedrine are of definite value and have saved the patient from an unnecessary laparotomy.

"IDS"

This is a colloquial term for (1) epidermophytid associated with epidermophytosis, (2) bacterid associated with pyogenic dermatitis. They are in-

cluded in the realm of allergic skin disorders because they represent the allergic response to a local infection.

Epidermophytid may be a vesicular eruption on the body, secondary to an infectious lesion on the feet. The secondary eruption usually has no fungi present. Treatment consists in clearing up the primary lesion. Specific desensitization with extract of the fungi causing these lesions has in my experience offered no great promise.

Bacterid is a response of skin generally to a local infection. Treatment of the infectious area may help, but recurrences are frequent. Culturing the primary area and autogenous vaccine therapy as an adjunct to local therapy offer gratifying results.

PRURITIS

(senile, ani, vulvae)

Pruritis of the anus, vulva, and the senile form of pruritis has, in many cases in spite of age, been on an allergic basis. The most common factors have included drugs, especially phenolphthalein, contactants including silk, food occasionally, and chronic bacterial infection locally.

Removal of the causative factors is essential. Specific bacterial desensitization is frequently the only solution to this problem. In this respect, injection about the anal region of the autogenous bacterial vaccine may be the only means for relief.

ERYTHEMA NODOSUM

This is a manifestation of bacterial hypersensitivity usually to the tubercle bacillus, but sometimes to the hemolytic streptococcus. Treatment is a general medical problem.

DERMATITIS HERPETIFORMIS

This is frequently associated with urticaria and eosinophilia. Its cause is considered to be associated with focal infection, especially in the gastrointestinal tract. This must be kept in mind in the dermatologic management of this skin disorder.

SUMMARY AND CONCLUSIONS

1. The allergic skin disorders are local manifestations of a general state of hypersensitiveness.
2. For proper management of these disorders, allergic as well as local treatment is essential.
3. The more common manifestations of skin allergy are discussed and treatment (not including local therapy) is outlined.
4. Focal bacterial infection plays an important role, both as the primary cause and as an additional factor. Specific (autogenous) vaccine therapy is a necessary part in the management of these disorders.

VITAMIN THERAPY IN DERMATOLOGIC PRACTICE*

THOMAS S. SAUNDERS, M. D.

PORTLAND, ORE.

The use of vitamins as specific therapeutic agents, or as adjuncts, in many medical and surgical conditions has been well-defined and well-publicized. It is my purpose to describe some of the newer clinical and experimental studies on vitamins, as affecting dermatologic thought and practice.

Progress in vitaminology, from a dermatologic standpoint, has been necessarily retarded by a dearth of clinical material. Frank avitaminoses, pellagra and scurvy included, are rarely encountered in ordinary dermatologic practice. Our knowledge of specific effects of vitamins on skin diseases has been greatly augmented by contributions of a few authors with extensive observations of large numbers of undernourished people.

In spite of, or rather probably because of, a lack of clinical avitaminoses, dermatologists and others have been trying to demonstrate the value of vitamin therapy in miscellaneous conditions, in which there are no apparent vitamin deficiencies.

Although vitamin deficiencies seldom occur singly, most of the recent studies on vitamins have dealt with individual vitamins or fractions, so it is probably better to consider the vitamins as more or less separate entities.

VITAMIN A

Dermatologic interest in this vitamin was aroused by a report of Loewenthal¹ in 1933, describing abnormal dryness and scaling of the skin, and follicular hyperkeratoses in 130 subjects in India, whose diet (on analysis) was found to be deficient in vitamin A. Many of these also had ocular symptoms (night blindness and xerophthalmia). With the addition of one ounce of cod liver oil daily to the diet, all cases with ocular symptoms were cured in nine weeks, and 98 per cent of the subjects with the skin condition. Frazier and Hu² reported essentially the same condition occurring in 180 Chinese.

Youmans and Corlette³ described the same condition occurring in this country. They considered the prompt response to vitamin A therapy as identifying the causative factor of the dermatosis.

There is a fairly large group of dermatoses charac-

terized by follicular hyperkeratoses: pityriasis rubra pilaris, keratosis follicularis, ichthyosis follicularis, keratosis pilaris, generalized ichthyosis, just to mention some of them. Most of these conditions are infrequently encountered and very refractory to treatment. It is quite possible that avitaminosis A is actually one of these conditions, but the descriptions offered by these observers does not indicate it. Nevertheless, we await reports of clinical use of vitamin A in these diseases.

In addition, there are a few miscellaneous conditions in which the use of vitamin A was said to have had a favorable effect. Mackay⁴ found that a group of babies, who received extra vitamin A, had less diaper dermatitis and intertrigo than a control group on normal diet. Raedelli⁵ reported that infants with weeping eczema showed improvement during administration of vitamin A. Reiss⁶ called attention to perleche-like condition in avitaminosis A. Sternberg and Pillsbury⁷ concluded that avitaminosis A in rats had no apparent effect on the resistance of the skin to experimentally produced infection with streptococci and staphylococci.

VITAMIN B

The vitamin B "complex" is made up of some important components (thiamin hydrochloride, riboflavin, nicotinic acid) and other minor factors. It has been indicated (Russell⁸) that administration of crystalline vitamin B₁ hydrochloride alone is of great value in the treatment of anorexias. Our chief interest in vitamin B₁ lies in its unquestioned value in the various neuritides (polyneuritis of pregnancy, neuritis in pellagra, postalcoholic neuritis and beri-beri).

While I have found the use of vitamin B₁ (complex) of value in stimulating appetite, its use in the treatment of the neuritis with which I am most concerned (herpes zoster) has been disappointing. In three cases in which I recently employed it (vitamin B₁) the results did not differ from those in which other forms of treatment had been used. Rattner and Roll⁹ reported similar results in sixteen treated cases.

The use of thiamin chloride in relieving the neuritis and of nicotinic acid in relieving dermatitis of pellagra are by now too well known to require

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1. Loewenthal, L. J. A.: New Cutaneous Manifestation in Syndrome of Vitamin A Deficiency. *Arch. Derm. & Syph.*, 28:700-708, Nov., 1933.

2. Frazier, C. N. and Hu, C. K.: Nature and Distribution According to Age of Vitamin A Deficiency. *Arch. Derm. & Syph.*, 33:825-852, May, 1936.

3. Youmans, J. B. and Corlette, M. B.: Specific Dermatoses due to Vitamin A Deficiency. *Am. J. Med. Sc.*, 195: 644-650, May, 1938.

4. Mackay, H. M. M.: Vitamin A Deficiency in Children. *Arch. Dis. Childhood*, 9:133-152, June, 1934.

5. Raedelli, E.: *Gior. ital. di dermat. e. sit.*, 76:765, 1935.

6. Reiss, F.: Cutaneous Manifestations of Vitamin A Deficiency. *Chinese M. J.*, 50:945-948, July, 1936.

7. Sternberg, T. H. and Pillsbury, D. M.: Influence of Avitaminosis A on Experimentally Produced Cutaneous Infections in Rats. *Arch. Derm. & Syph.*, 35:247-250, Feb., 1937.

8. Russell, W. R.: Parenteral Administration of Vitamin B₁ in Treatment of Polyneuritis. *Edinburgh M. J.*, 43:315-323, May, 1936.

9. Rattner, H. and Roll, H. C.: Herpes Zoster and Vitamin B₁. *J. A. M. A.*, 112:2585-2586, June 24, 1939.

any further comment. I cannot find in my records any cases of pellagra encountered in private or dispensary practice in my two and one-half years in Oregon.

In this connection, I might mention that I have encountered many cases of eczematoid dermatitis, involving the hands and forearms, in which, judging from the vitamin therapy which had been prescribed, some element of pellagra was considered to be present. Naturally, there was no response to such therapy in these cases.

Madden¹⁰ stated that administration of vitamin B, along with a diet restricted in fats and proteins, was of value in the treatment of psoriasis. In a more limited experience, I have found it inferior to local therapy with chrysarobin, ultraviolet light, etc.

VITAMIN C

Aside from its great value in prevention and treatment of scurvy, vitamin C has lately been shown to be intimately connected with pigment and pigmentary disorders of the skin. It has been shown that the adrenal glands and the skin are the great storage depots for vitamin C in the human body. In the skin, it is encountered, for the most part, in the basal layer of the epidermis, and hyperpigmented structures are reputedly rich in vitamin C.

The chemistry of vitamin C and its relationship to pigment physiology is of some importance. To begin with it is a strong reducing agent, a rough test for the detection of its presence being its ability to reduce silver nitrate, with the formation of the black silver oxide. Experimentally, the cut section of the adrenal gland in normal guinea pigs strongly reduces silver nitrate, whereas this reaction is greatly diminished in scorbutic guinea pigs, or in those fed on C deficient diets.

The formation of pigment in the skin depends on the ability of certain cells (melanoblasts) to produce it, apparently through the oxidation of certain organic substances, of which di-oxy-phenyl-alanine (dopa) may be chiefly concerned. All pigment-producing cells stain black with dopa reagent. It is assumed that oxidative processes occur in the cell, producing pigment from dopa. Vitamin C, by virtue of its location in the pigment-producing areas of the skin and its strong reducing action, might be able to prevent oxidation and subsequent pigment formation.

This hypothesis was tested experimentally in castrated guinea pigs, to which estrogenic substances were administered.¹¹ This procedure ordinarily causes enlargement and pigmentation of the nipples

and areolae. The administration of vitamin C in large quantities before and during administration of estrogenic substances did not prevent hyperpigmentation of the nipples and areolae.

Others,¹² however, have reported that the administration of an adequate amount of vitamin C decreases the pigmentation in guinea pigs, resulting from an exposure to ultraviolet rays.

Cornbleet¹³ found that human skin, after ultraviolet irradiation, contained less vitamin C, as measured by the rough silver nitrate test, than symmetrical nonirradiated areas. A chemical reaction between the ultraviolet rays and vitamin C was postulated.

Cornbleet further found that the reaction to silver nitrate from the cut section of Negro skin, previously injected with vitamin C, was greater than the reaction from the cut section of fair skin which had been injected with a similar amount. This indicated to him that pigment had something to do with "binding" or "fixing" vitamin C in the skin.

Conversely, he showed that when vitamin C was injected into leukodermatous (depigmented) areas, the reaction of the cut surface to silver nitrate was negative. Something happens to vitamin C in leukoderma; it is either rapidly absorbed when injected (unlikely) or chemically changed. This experiment indicated that it is difficult for vitamin C to remain in the skin without the presence of some pigment.

In order to comprehend the relation of vitamin C with pigment physiology, it is necessary to consider another factor, the element copper, which has been shown to be present in the skin in direct proportion to its pigment content. Copper apparently acts as a catalyst in pigment formation. When it is added to dopa and exposed to ultraviolet lights, there is a greater precipitation of pigment than when dopa alone is exposed. Vitamin C, when added to a mixture of copper and dopa, and similarly exposed, was found to have an inhibitory influence on pigment precipitation.

Apparently vitamin C exercises a regulatory function, an inhibiting influence in pigment production. This would explain the hyperpigmentation that occurs in scurvy and Addison's disease. In both conditions the administration of vitamin C is said to bring about some decrease in pigmentation. Chloasma uterinum has been said to have been favorably influenced by the administration of vitamin C.

10. Madden, J.: Personal communication.
11. Jadassohn, W. and Schaaf, F.: Zur Frage der depigmentierenden Wirkung der 1—Ascorbinsäure (Vitamin C). *Klin. Wchnschr.*, 13:845-846, June 9, 1934.

12. Schade, H. A.: Beitrag zur Frage des Einflusses von Vitamin C auf Pigmentierungsvorgänge. *Klin. Wchnschr.*, 14:60-61, Jan. 12, 1935.

13. Cornbleet, T.: Vitamin C and Pigment. *Arch. Derm. & Syph.*, 35:471-477, March, 1935.

Pigment, once formed, apparently acts as an anchor for vitamin C, perhaps for the purpose of using the skin as a storage depot. This is a paradox, for one would assume from the foregoing that, in the process of pigment formation, vitamin C would have to be decreased in quantity or destroyed to allow the reaction to be completed.

VITAMIN D

Vitamin D, in moderate to large to excessive doses, has been used in a few dermatoses. It has long been known that exposures to ultraviolet light are of benefit to some cases of acne vulgaris. This may be due to the activation of ergosterol in the skin by the ultraviolet rays. With this in mind, Doktorsky and Platt,¹⁴ two students with the disease, gave themselves 10 to 20 drops daily of viosterol. After continuing for one month, they noticed a decrease in the number of pustules, by actual count, of 75 to 80 per cent. They then gave viosterol to a group of thirty acne patients for four to five weeks, with 75 to 80 per cent improvement in 90 per cent of the subjects. When treatment was discontinued in ten of these subjects, an increase in the number of pustules was noted.

Hinrichsen and Ivy,¹⁵ stimulated by Doktorsky's observations, carried out an extensive investigation of vitamin D therapy in 178 cases of acne vulgaris over a long period of time. The lesions were counted and the patients graded according to Bloch's method. The dose of vitamin varied from 20,000 to 30,000 U. S. P. units daily (low dosage) to 100,000 units daily (high dosage).

The high dosage was given when low dosage failed, or in exceptionally severe cases. No other form of treatment was given, with the exception of liver extract (for anemia) in a few cases. The patients were for the most part of adolescent age. They were given the treatment for several months, and follow-ups were made in some cases five months after cessation of treatment, to pick up recurrences.

Hinrichsen and Ivy found that 22 per cent showed marked improvement, 38 per cent moderate, 26 per cent slight, and 13 per cent no improvement. In other words, 60 per cent showed a definite response to treatment. Subjective ideas of treatment results were eliminated by an actual counting of all lesions. The question of spontaneous partial remission was considered, but it was thought that the number of patients showing improvement, and its degree, was far greater than could be ac-

counted for by spontaneous remission. There were no control subjects.

In this study there was no change produced in the occurrence or number of comedones or of seborrhea. Only the papulopustular elements of acne were influenced. Vitamin D, therefore, in adequate doses, may have some part in the prevention of skin infection. Noteworthy is the fact that one of Hinrichsen's patients, with an acneform eruption due to bromides, was relieved by taking 100,000 units of viosterol every third day.

Maynard¹⁶ reported satisfactory results in 75 per cent of 132 patients with acne vulgaris, treated with viosterol (24 drops daily) and local applications, excluding roentgen or ultraviolet rays. In a control group of acne patients treated with roentgen rays, etc., without viosterol (in preceding years), he obtained 63 per cent satisfactory results.

Maynard's experience with vitamin D in other skin diseases is interesting. He reported in the same article healing of two cases of localized scleroderma, three cases of alopecia areata, and three out of four cases of granuloma annulare. Incidentally, spontaneous involution is the rule in alopecia areata, occurs occasionally in localized scleroderma, but is unusual in granuloma annulare. He reported 100 per cent improvement in a case of old roentgen atrophy, a feat which I believe is without parallel.

In earlier years the dosage of irradiated ergosterol was strongly limited by the appearance of toxic symptoms. However, these symptoms were found to be due to the toxic substances, whose presence was soon eliminated from the manufactured product. At the time the massive doses of viosterol became popular, Ceder and Zon¹⁷ were giving it to an arthritic with psoriasis. They were surprised to find complete involution of the psoriasis. In 1936 they treated fifteen cases of chronic, widespread, psoriasis with 300,000 to 400,000 units of vitamin D (irradiated ergosterol) daily. Eleven showed complete involution of psoriasis in twelve weeks, two obtained partial benefit, and two no benefit.

The cases had previously shown no tendency to spontaneous involution. No local nor dietary treatment was employed during the vitamin D administration. In addition, the subjects were protected from natural sunlight as much as possible. Three patients developed signs of hypervitaminosis D (nausea, malaise, urinary frequency) and all showed a mild hypercalcemia. Of ten patients who had received marked benefit, six had a recurrence

14. Doktorsky, A. and Platt, S. S.: Vitamin D in Treatment of Acne Vulgaris. *J. A. M. A.*, 101:275, July 22, 1933.

15. Hinrichsen, J. and Ivy, A. C.: Value of Irradiated Ergosterol in Treatment of Acne Vulgaris. *Illinois M. J.*, 74:85-88, July, 1938.

16. Maynard, M. T. R.: Vitamin D in Acne. *California & West. Med.*, 49:127-138, Aug., 1938.

17. Ceder, E. T. and Zon, L.: Treatment of Psoriasis with Massive Doses of Crystalline Vitamin D and Irradiated Ergosterol. *Pub. Health Rep.*, 52:1580-1584, Nov. 5, 1937.

within six weeks to five months after discontinuing treatment. Ceder suggested that it might be possible that a difference existed in the "antipsoriatic element" in different manufactured preparations. One of my colleagues¹⁸ gave crystalline vitamin D in massive doses to a group of psoriatics with very little benefit.

My own experience with vitamin D in psoriasis is limited to one case, a young, intelligent matron with psoriasis of fifteen years duration. Her lesions were small papules, well distributed over the cutaneous surface, a type of psoriasis which I believe to be resistant to treatment of any kind. After no improvement from ultraviolet light, salves and auto-hemotherapy, I placed her on an irradiated ergosterol product, 200,000 units of D daily. No improvement resulted after one month's treatment, so further treatment was discontinued.

What is the explanation for the beneficial effect of vitamin D in psoriasis as reported by Ceder and Zon? They stated that their patients had been resistant to treatment with "numerous local remedies." It is well known that psoriatics frequently improve under ultraviolet therapy and it is quite likely that their improvement is directly concerned with the synthesis of vitamin D in the skin by the ultraviolet light. Thus, one would think that psoriatics who fail to respond to ultraviolet light would also fail to benefit from vitamin D therapy.

Brunsting¹⁹ attempted to corroborate Ceder's clinical findings. He gave 300,000 units of vitamin D daily in the form of ertron (activated ergosterol) to nineteen patients who, with three exceptions, had an apparently resistant form of psoriasis. Treatment was carried out in the fall and winter months, a time when spontaneous remissions are infrequent. Three patients were entirely cleared, seven markedly improved, five slightly improved, and two became slightly worse. The treatment, which was continued over a period of months, was well tolerated. Interestingly enough, the arthritis of two patients was unaffected by the high vitamin therapy, as were also nails unaffected.

The results of vitamin D therapy in pemphigus are of great interest to all who have had experience with the disease. Ludy and Devalin²⁰ reported good results in six cases. Tauber and Clarke²¹ report use of massive doses of D (100,000 to 500,000 units) in nine cases of pemphigus. In eight of these

cases, partial or total disappearance of the cutaneous lesions was noted. Examination of the blood, during treatment, did not show any change in the calcium-phosphorus content or their ratio. Necropsy on three of the cases reported did not show any calcium deposits in the organs examined microscopically. Tauber found that the cutaneous lesions tended to appear again in all their severity if the medication was discontinued.

In spite of the fact that pemphigus has some tendency to spontaneous remission, I feel that the addition of massive doses of vitamin D will be found to be of great value in controlling the symptoms of the disease. That it will have any effect on the ultimate outcome (100 per cent mortality) is unlikely.

SUMMARY

While the use of vitamins in specific avitaminoses is almost invariably accompanied by brilliant results, the same cannot be said for their use as non-specific agents or as therapeutic adjuvants. In the absence of undernutrition, abnormal dietary, or clinical avitaminoses, the use of products containing all of the accessory food factors would seem unwarranted, unless one is striving for tonic effects. Also, at the present date, the use of massive doses of vitamins does not threaten to succeed the more conventional methods of treatment. Nevertheless, the field of vitamin research is far from being completely studied, and further efforts in this regard may be richly rewarded.

TREATMENT OF CERTAIN ALLERGIC SKIN CONDITIONS WITH HISTAMINASE*

ALEXANDER R. ALTOSE, M.D.

SEATTLE, WASH.

The theory that histamine or a histaminelike substance is responsible for allergic reactions is becoming generally accepted. This has been solidly supported by the work of Lewis¹, Dale², Dragstedt³, Code⁴ and others. In addition, the presence of a histamine-inactivating substance has been definitely

*Read before a Meeting of King County Medical Society, Seattle, Wash., March 18, 1940.

1. Lewis, T.: *The Blood Vessels of the Skin and Their Responses*. Shaw, London, 1927.

2. Dale, H. H., Best, C. H., Dudley, H. W. and Thorp, W. V.: *Nature of Vaso-dilator Constituents of Certain Tissue Extracts*. *J. Physiol.*, 62:397-417, March, 1927.

Dale, H. H.: *Chemical Factors in Control of Circulation*. *Lancet*, 1:1179, 1233, 1285, 1929.

3. Dragstedt, C. A. and Gebauer-Fuelnegg, E.: *Studies in Anaphylaxis; Appearance of Physiologically Active Substance during Anaphylactic Shock*. *A. J. Physiol.*, 102:512-519, Nov., 1932; *Nature of a Physiologically Active Substance Appearing during Anaphylactic Shock*. *A. J. Physiol.*, 102:520-526, Nov., 1932.

4. Code, C. F. and Ing, H. R.: *Isolation of Histamine from White Cell Layer of Centrifuged Rabbit Blood*. *J. Physiol.*, 90:501-510, Sept. 17, 1937.

Code, C. F. and McDonald, A. D.: *Histamine-like Activity of Blood*. *Lancet*, 2:730-733, Sept. 25, 1937.

Code, C. F.: *Source in Blood of Histamine-like Constituent*. *J. Physiol.*, 90:349-364, Aug. 17, 1937.

18. Ilge, A.: Personal communication.

19. Brunsting, L. A.: *Treatment of Psoriasis by Ingestion of Massive Doses of Vitamin D*. *Proc. Staff Meet. Mayo Clinic*, 13:280-283, May 4, 1938.

20. Ludy, J. H. and Devalin, C. M.: *Viosterol in Treatment of Pemphigus*. *Urol. & Cutan. Rev.*, 36:817-821, Dec., 1932.

21. Tauber, E. B. and Clarke, G. E.: *Treatment of Pemphigus with Concentrated Viosterol*. *Arch. Dermat. & Syph.*, 40:82-89, July, 1939.

shown by Eustis⁵, Best and McHenry⁶, Scholer⁷ and others.

I have been engaged in the study of histamine and histaminase for more than a year. Histaminase was made available to western investigators for use in allergy about a year ago**. At that time it seemed that among allergic conditions improvement in the nonspecific treatment of urticaria was most desirable. Suitable specific therapy for other forms of allergy already exists, as in hay fever and asthma, so I was not primarily interested in the effects of histaminase upon them.

Practically, histamine reactions may be regarded as systemic or local skin reactions⁸. Systemic reactions include smooth muscle contraction, stimulation of gastrointestinal secretions, lowering of blood pressure and capillary dilatation⁹. If there is a histamine-histaminase reaction, clinically it should be most easily seen in the skin. This, coupled with the fact the empiric therapy of urticaria has not been entirely satisfactory, led me to confine preliminary efforts in the use of histaminase to urticaria and angioneurotic edema. Both of these are essentially the same process, except that the edema in the latter is deeper in the skin and subcutaneous tissues.

This paper gives results of treatment in a small series of cases of urticaria, angioneurotic edema and allergic dermatitis. The study has been preliminary. More work will be done in an effort to establish the clinical value of histaminase.

The following points regarding histamine seem fairly well established. It is a normal constituent of living cells. Whenever living cells are injured, histamine is released into the blood or tissues. The most generally accepted theory to explain the mechanism of allergic reactions in humans is that which involves the interaction between allergen and antibody with the liberation of histamine, or a histamine-like substance, from living cells. Moreover, the symptoms produced by histamine most nearly resemble those seen in anaphylactic shock. Another theory for the source of histamine is that it is formed in the breakdown of histidine in protein foods.

The study of Lewis and his coworkers supports

the contention that histamine, or an "H-substance," is responsible for the allergic or anaphylactic reaction. He states that the so-called "triple response," occurring after injury to the skin, is identical with that resulting from the intradermal injection of histamine: this consists of (1) local vasodilatation, (2) reflex flare and (3) the wheal, due to local increased capillary permeability. Lewis concluded that in urticaria there is a release of "H-substance" into the tissues, producing the wheals. This may be due to internal or external causes. The work of Dale and his coworkers supports these views.

Dragstedt and others recovered a substance from the blood of animals in anaphylactic shock that was pharmacologically the same as histamine. The studies of Code, and Goodson¹⁰ seem to indicate that this substance actually is histamine. Dragstedt¹¹ recently stated that the implication of these observations clinically is that, in addition to specific desensitization procedures, one may attempt the use of chemical or pharmacologic antidotes to the cellular products apparently involved.

That the body also contains a natural histamine-inactivating substance was first suggested by Eustis, and it seemed to be an enzyme. This was established by Best and McHenry, when they recovered from body tissues a substance apparently an enzyme, which they called "histaminase." This substance had the remarkable property of inactivating histamine in vitro. The mechanism is still not definitely clear, but it does change the structure of histamine, probably by an oxidative splitting of amine groups. Scholer showed that allergic reactions cannot be produced in the small intestine, indicating a local antiallergic mechanism. This is important since most food elements and antigens enter the mucosa in the small intestine. A recent suggestion is that the success of histamine desensitization is due to the stimulation of histaminase formation¹².

Histaminase, or torantil, is an active stable powder derived from the small intestinal mucosa and kidneys of hogs. It is slowly soluble in water and responds to the chemical reactions common to albumins¹³. It is available in enteric coated tablets of five units each, and in ampules of one and two units for intramuscular injection. A unit is the amount necessary to detoxify 1 mgm. of histamine hydrochloride.

Until recently, a great difficulty has been the preparation of a uniform, stable product but this

**Histaminase (Torantil) used in this study was supplied by the Department of Medical Research, Winthrop Chemical Company.

5. Eustis, A.: *Biochem. Bull.*, 4:97, 1915; *Relation of Histaminase to Intestinal Toxemia and Asthma*; Preliminary Report, *New Orleans Med. & Surg. J.*, 92:349-351, Jan., 1940.

6. Best, C. H. and McHenry, E. W.: *Inactivation of Histamine*, *J. Physiol.*, 70:349-372, Dec., 1930.

7. Scholer, H.: *Vergleichende Untersuchungen über die lokale Anaphylaxie verschiedener Organe*, *Ztschr. f. Immunitätsforsch. u. exper. Therap.*, 79:99-109, 1933.

8. Tuft, L.: *Clinical Allergy*, Saunders, W. B., Philadelphia, p. 35, 38, 471, 1938.

9. Bray, G. W.: *Recent Advances in Allergy*, Second Ed. Blakiston & Sons, Philadelphia, p. 34, 1934.

10. Goodson, W. H.: *Physical Allergy*, *Proc. Staff Meet. Mayo Clin.*, 13:500-504, Aug. 10, 1938.

11. Dragstedt, C. A.: *Discussion on Histamine*, *J.A.M.A.*, 114:522, Feb. 10, 1940.

12. Elliott, R. W.: *Discussion on Histamine*, *J.A.M.A.*, 114:522, Feb. 10, 1940.

13. Winthrop Chem. Co.: O. W. Barlow. Personal Communication.

has been overcome. In the past, much of the experimental material has been variable in potency. This has in part accounted for inconclusive reports in several earlier studies. Other causes may have been inadequate dosage, failure of absorption or a too rapid passage through the intestine.

The drug has been used for some years in Europe, but only recently in this country. Its use has been reported in peptic ulcer¹⁴, ulcerative colitis¹⁵, cirrhosis of the liver, gastritis, acne¹⁶, serum sickness¹⁷, hypersensitivity to cold and heat^{18,19}, allergic rhinitis²⁰, asthma²¹, hay fever²², eczema²³, urticaria²⁴, urticarial reactions to insulin²⁵, purpura²⁶ and after inhalation of irritating fumes²⁷. In animals histaminase has successfully combated shock²⁸. It has been suggested for treatment of the toxemia of shock in severe burns. This diversity of applications must not imply that histaminase is a panacea, for it will not work well in all these disorders. Indiscriminate use will lead to many disappointments. Passage of time and critical study, as with most drugs, will probably find it limited to a few definite indications.

ANALYSIS OF RESULTS

The cases presented were selected from everyday practice. By chance, half were acute, half chronic. No papular urticarias, as seen often in infants, are included. Some were accompanied by other manifestations of allergy, such as asthma or allergic rhinitis.

The series consists of eighteen cases, as follows:

14. Ercklentz, W. and Ercklentz, B. W.: *Über Anti-Histaminwirkung im Organismus durch "Torantil."* München Med. Wchnschr., 83:17-19, Jan. 3, 1936.
15. Moldenschardt, H.: *Torantil, ein aus Darmschleimhaut gewonnenes Präparat.* Med. Klin., 32:153-166, Jan. 31, 1936.
16. Hartmann, M.: *Über die Behandlung der Akne vulgaris mit Torantil.* Dermat. Wchnschr., 106:693-696, June 18, 1938.
17. Foshay, L. and Hagebusch, O. E.: *Histaminase in Treatment of Serum Sickness.* J.A.M.A., 112:2398-2402, June 10, 1939.
18. Roth, B. M. and Horton, B. T.: *Hypersensitiveness to Cold; Treatment with Histamine and Histaminase.* Proc. Staff Meet. Mayo Clin., 12:129-133, March 3, 1937.
19. Vaisberg, M.: *Histaminase in Treatment of Physical Allergy and Some Other Conditions.* New York State J. Med., 39:2199-2201, Dec. 1, 1939.
20. Prickman, L. E.: *Serum Sickness.* J.A.M.A., 112:1102-1103, March 18, 1939.
21. Forman, J.: *Use of Histaminase in Treatment of Various Allergic Manifestations.* Ohio State M. J., 36:56-58, Jan., 1940.
22. Adelsberger, L.: *Darmextrakte bei allergischen Krankheiten.* Fortschr. u. Therap., 13:568-575, Oct., 1937.
23. Blecha, Med. Klin., 6:1938.
24. Laymon, C. W. and Cumming, H.: *Histaminase in Treatment of Urticaria and Atopic Dermatitis.* Preliminary Report, J. Invest. Dermat., 2:301-312, Dec., 1939.
25. Roth, G. M. and Rynearson, E. H.: *Use of Histamine and Histaminase in Treatment of Allergic Reactions to Insulin.* Proc. Staff Meet. Mayo Clin., 14:353-357, June 7, 1939.
26. Urbach, E.: *Intestinal-toxisch, bedingter Charakter einer chronisch rezidivierenden Purpura durch Torantil festgestellt.* Zentralbl. f. Haut-u.-Geschlechtskr. 54:70, 1936.
27. Ungar, J. and Bolgert, M.: *Prevention of Fatal Pulmonary Lesions from Inhalation of Irritant Vapors by Ascorbic Acid and by Histaminase.* Compt. rend. Soc. de biol., 129:1107-1109, 1938.
28. Karady, S. and Browne, J. S. L.: *Effect of Histaminase Treatment on Histamine and Anaphylactic Shock in Guinea Pigs.* J. Immunol., 37:463-468, Nov., 1939.

seven of urticaria only, four of angioneurotic edema only, three of both combined and four of allergic dermatitis.

Forms of administration were oral and parenteral. The parenteral route was used in but two cases, as ampules have only recently been made available.

Of the eighteen cases, eight were greatly improved, seven were moderately improved, and four were unimproved. The accompanying table shows these results according to the type of cases. The four unimproved cases were chronic, three being of the allergic dermatitis group.

RESULTS OF TREATMENT

All Cases			Per cent
Greatly improved	8		44.4
Moderately improved	6		33.3
Unimproved	4		22.2
By Types of Cases			
	Greatly Improved	Moderately Improved	Unimproved
Urticaria only	4	3	
Both		2	1
Angioneurotic edema only	4		
Allergic dermatitis		1	3
	8	6	4

The next point to consider is the latent period of the drug, that is, how long before improvement was noted. In fourteen cases, the earliest response was in one-half hour, the longest delay was seventy-two hours and the average twenty-nine. Although this is not very rapid, we must admit that in chronic cases that do not respond to ordinary treatment, any relief at all is welcome. A more rapid response should, perhaps, be expected after intramuscular injection.

The duration of treatment of all cases totals 205 treatment days. The average was 11.4 days. This same average is reduced to 6.7 days, if one case is excluded, in which the patient has taken the drug at intervals when needed for over three months. The drug was given for at least two or three days beyond signs of improvement in nearly all cases in an attempt to prevent recurrences. This tapering-off should be applied to all patients.

The total dosages for the series, as expressed in units or tablets are as follows: the minimum number for the course was 4 tablets (20 units), the maximum number 150 tablets (600 units) and the average was 49 tablets (245 units).

In the early cases the daily dosages were relatively small. As I became more familiar with the drug, and knowing that its potency was then questionable, daily dosages were increased whenever possible. This trend is significant in the estimation of adequate dosages. If the theories men-

tioned are correct, the rationale of histaminase treatment rests on the basis of its being essentially a therapy of substitution. Since there are no means to measure the amounts of histamine released in an allergic reaction, or of measuring histaminase deficiency, there is no exact method of calculating dosage. And, since the drug is relatively nontoxic, large amounts are recommended. This will vary with individuals, as do threshold drugs. The early cases received 15-20 units daily, more recent cases 45-75 units daily. If these did not seem sufficient, I should not hesitate to give 100 or more units daily. These large doses should materially decrease the number of failures. In addition, patients who do not respond to the oral product may do so promptly to the parenteral form. Another helpful feature of this drug as regards massive dosage is that it is relatively inexpensive.

An important consideration in any new drug is its side effects. With histaminase two types may be expected: (1) those due to a pork sensitivity which are not rare, and (2) those due to the drug itself. So far, minor reactions only have been reported, such as vertigo, nausea, flatulence, etc.

In this series, the drug was discontinued in one patient because of a laxative effect, although her allergic dermatitis was improved. In two patients clinical sensitivities to pork were suspected. They were unable to tolerate pork in the diet, but were not skin tested to pork extract. In one of these, a woman with a dermatitis known to be caused by tree pollens each spring, there was an exacerbation of chronic cholecystitis. In the other, a man with chronic urticaria, there was a flare-up of the urticaria, accompanied by epigastric distress, nausea, headache and flatulence. He received histaminase intramuscularly. Neither of these reactions can be definitely attributed to the drug, although they are most likely so. Preparation of the drug from a source other than pork may decrease the likelihood of such occurrences.

COMMENTS

Before attempting to draw conclusions from these results, it should be noted that all urticaria is not allergic. There are many well-known examples of allergic urticaria, such as those due to foods, drugs, physical factors and proteins inhaled or rubbed on the skin. Specific methods are available for their diagnosis and treatment. Other urticarias may offer no proof of allergic origin, such as nettles rash that may occur in anyone. Other causes include certain animal parasites, focal infections, endocrine disturbances, as in

menstruation or pregnancy, physical factors (light, heat, cold, etc.), psychic factors, and other external causes (insect bites, chemicals, etc.). Foods often cause wheals in people with negative skin tests, such as the frequent hives due to strawberries. The feature common to all is that they probably result from a local release of histamine or a histamine-like substance. Histamine in anybody's skin produces urticaria, whatever the cause²⁹. For urticaria of this latter type, histaminase offers much promise.

There are several valid objections to the histamine-histaminase theory. Among them is the possibility that in the extract there may be something other than histaminase that is responsible for the inactivation.

Eustis believes that the drug aids in intestinal detoxification by acting on other amines in the tract. In a patient relieved of urticaria, one might expect the wheals to recur when histaminase is withdrawn, as it does not prevent the formation of histamine. Sulzberger³⁰ states that "H-substance" may not be the only cause of the wheal. If histamine is put into the skin with an electrical current (iontophoresis), a wheal occurs; if the current is reversed, histamine may be obtained, showing that there is either a slow action or that other factors account for the relief. If an allergen is used, histamine cannot be returned.

The necessity of adequate doses should again be emphasized. The tablets should be given twenty or thirty minutes before meals for best results. With histaminase, no dietary restrictions are necessary. Several of the patients treated now eat foods freely with histaminase, that have always caused immediate urticaria before. They, too, approve the fact that injections, as with epinephrine or calcium, need not be used. However, the parenteral form, when on the market, should be useful in children too young to swallow tablets.

Urticaria is a capricious disease and often terminates spontaneously, with or without treatment. This complicates its appraisal, except in cases where other treatment has failed. That all the acute cases in this small series were relieved, does not prove the efficacy of the drug. Further work may establish its value in these cases. This study, I believe, does show the value of histaminase in chronic urticaria, with or without other treatment, and especially after empiric methods have not been successful.

29. Hopkins, J. G.: Symposium on Urticaria. *J. Allergy*, 11:205-210, Jan., 1940.
30. Sulzberger, M. B.: Discussion of 24.

HISTAMINASE IN TREATMENT OF PEPTIC ULCER*

PAUL O'HOLLAREN, M.D.

SEATTLE, WASH.

Histaminase has been in use rather widely for the past several months in the treatment of disorders based on release of histamine, such as physical allergy, serum sickness, hay fever and bronchial asthma. It is the purpose of this paper to suggest its use as an adjunct in the treatment of peptic ulcer, and to give a few brief considerations as to why its use in this condition would be advantageous.

Histaminase has the property of being able to overcome the effect of histamine, as shown by the work of Karady and Browne¹, Best², Best and McHenry³ and others. This inactivation of histamine occurs all over the body, but the greatest activity is found to be in the kidney and the gastrointestinal tract. It is possible, as demonstrated by Scholer⁴, that the intestines' ability to prevent local anaphylactic reaction is due to the histaminase present therein.

In reference to the gastrointestinal tract, histamine is known to have at least two definite effects. First, it greatly increases the flow of gastric juice. This is particularly so in its effect upon the parietal cells, and at the same time it inhibits the activity of the mucoid cells. This fact is brought out in the work of Babkin and Komarov⁵, who show that the mucoproteins from the mucoid cells diminish the activity of pepsin. In this manner probably they protect the mucous membrane of the stomach. Thus, we see that histamine stimulates the active digestive juices, such as hydrochloric acid, pepsin and rennin, and inhibits the function of the protective mechanism.

Second, histamine increases the tonus of the smooth muscle of the gastrointestinal tract and probably is a factor in the production of pylorospasm. Ivy and Fauley⁶ are of the opinion that pylorospasm is one of the most important factors in the genesis of gastric and duodenal ulcer in man. Pylorospasm produces gastric retention. Gastric

retention augments hypermotility and causes hypernormal gastric acidity. It also prolongs the contact of the gastric acid with the ulcer surface, thus favoring chronicity.

It seems plausible that, if one were to reduce the amount of histamine present in the system by the use of histaminase in the treatment of peptic ulcer, he would be diminishing at least one of the contributing factors against which the healing processes are struggling. Roth and Horton⁷, in a study at the Mayo Clinic, demonstrated a decrease from 92 to 68 degrees of total gastric acid, and from 78 to 48 degrees of free hydrochloric acid, after the administration of only 67 units of histaminase (torantil) over a period of four and one-half days. This is rather a marked response to a comparatively small dosage.

CASE REPORT

An interesting case of duodenal ulcer which was treated successfully with histaminase is that of a physician with a history of chronic peptic ulcer of eight years duration. The case is of particular value in that the patient, being a doctor, was especially capable of weighing carefully his symptoms in response to therapy. He had had repeated recurrences of distressing symptoms, varying in duration from three months to a year since 1932. In April, 1939, he had a severe gastric hemorrhage following symptoms of profound indigestion the previous four months.

The patient was treated with bed-rest, Sippy diet, amphojel, and because the patient was a heavy smoker, he was told to stop, which he did. His symptoms gradually subsided and again he returned to active work. In January, 1940, he again developed the typical symptoms, this time with severe night pains. Again he resumed a careful diet and avoided spices and tobacco. He drank milk and cream every two hours and took one ounce of amphojel four times a day, and antispasmodics one-half hour before meals. This was continued through January, February and early March but gained no relief. The night pains were more persistent and amelioration of symptoms from milk, cream and amphojel only lasted about two hours.

On March 10 the use of histaminase was suggested and he was persuaded to give its use a trial. He decided to make himself a test case and give histaminase a rigorous trial. The following five days he discontinued all treatment, and indulged freely in spicy foods, pickles, alcohol and cigarettes. The pain became very severe, and nausea and vomiting developed along with distention and frequent regurgitation of extremely strong peptic juices.

On March 15 he started taking histaminase (twenty units of torantil) one-half hour before meals, three times a day. No other treatment was used, and he continued on his rather abusive diet, and smoked one package of cigarettes daily. Two days later the symptoms began to subside, and in ten days he was symptom-free. He then began to reduce the dosage by ten units a day, until April 1, when a maintenance dosage of ten units daily was established. He has been eating and smoking freely and has had no recurrence of symptoms.

An interesting observation, which was made by the patient, was that during the time when the dosage was heavy and the symptoms were sub-

*From Providence Hospital.

1. Karady, S. and Browne, J. S. L.: Role of "Auto-Antigens" in Pathogenesis of Physical Allergy. *J. Immunol.* 37: 457-461, Nov., 1939.

2. Best, C. H.: Disappearance of Histamine from Autolysing Lung Tissue. *J. Physiol.* 67:256-263, June, 1929.

3. Best, C. H. and McHenry, E. W.: Inactivation of Histamine. *J. Physiol.* 70:349-372, Dec., 1930.

4. Scholer, H.: Vergleichende Untersuchungen über die lokale Anaphylaxie Verschiedener Organe. *Ztschr. f. Immunitätsforsch. u. Exper. Therap.* 79:99-109, 1933.

5. Babkin, B. P. and Komarov, S. A.: Influence of Gastric Mucus on Peptic Digestion. *Canad. M. A. J.* 27:463-469, Nov., 1932.

6. Ivy, A. C. and Fauley, G. B.: Factors Concerned in Determining Chronicity of Ulcers in Stomach and Upper Intestine; Susceptibility of Jejunum to Ulcer Formation; Effect of Diet on Healing of Acute Gastric Ulcer. *Am. J. Surg.* 11:531-543, March, 1931.

7. Roth, G. M. and Horton, B. T.: Hypersensitiveness to Cold; Treatment with Histamine and Histaminase; Report of Case. *Proc. Staff Meet. Mayo Clin.* 12:129-133, March 3, 1937.

siding, the drug produced a marked diuretic effect. The urine had a very nitrogenous odor. It is possible that this diuretic action resulted from kidney stimulation, due to the fact that the destruction of histamine by histaminase is carried on extensively by the kidney. He also craved fluids during this period and drank water freely to compensate. At the peak of the diuretic action the patient had a slight backache which quickly subsided on reducing dosage.

Another observation was that, following treatment, the patient would intentionally produce small regurgitations by swallowing air, and belching forcefully about two hours after meals. Instead of the extremely acid gastric juice he vomited before treatment, he now obtained a very bland product. The result of this test has repeatedly yielded the same bland product, suggesting that his average level of gastric acidity has been greatly reduced. Since taking histaminase, fruit juices have been well tolerated, although previously they produced severe epigastric distress.

The regime used along with histaminase in this case was merely for the purpose of placing the drug under the most severe handicap, and certainly should not be permitted clinically. If histaminase is to be used, it should be employed as an adjunct to standard treatment. Its extensive use in treatment of allergies has shown the drug to have very few side effects, none of which are harmful. It is inexpensive and easy for the patient to take.

CALCIFICATION OF PERICARDIUM

EDEMA OF HEAD AND NECK A SYMPTOM*

C. I. DRUMMOND, M.D.

MEDFORD, ORE.

Calcification of the pericardium complicating chronic constrictive pericarditis is a rather rare condition. A diagnosis of the condition before autopsy is still infrequently made, due to the fact that there are no physical signs occurring with sufficient uniformity to permit a diagnosis.

Since this previously hopeless condition has been greatly benefited and frequently cured by surgical methods in the past few years, it is important for us to be able to correctly diagnose the disease at a stage when decortication of the heart will be of benefit. If surgery is not possible, we can at least afford an explanation of a group of symptoms and signs in an obscure case and prevent confusion with other conditions, and incidentally save ourselves professional embarrassment.

The purpose of this paper is to report a case of calcification of the pericardium diagnosed before death and to bring to your attention briefly the symptoms and signs giving us clues to the diagnosis. Since the physiology, signs and symptoms found in chronic constrictive pericarditis are the same whether calcification is present or not, my discussion will of necessity consider them as one disease.

OCCURRENCE

Pericarditis of all forms has been found at autopsy from 10 to 16 per cent of cases, and about 40 per cent of these were found to be of the constrictive type. Not all of these were severe enough to give symptoms before death. Until 1932 only thirty-five cases had been reported, in which the diagnosis had been made before death. There had been 109 cases found at autopsy up to that time. Since then there have been many cases reported of chronic constrictive pericarditis but only a few with calcification.

Chronic constrictive pericarditis has been found in patients from the age of five on, the average age in a large series of autopsies being forty-eight. It is frequently found in young adults and unless treated surgically, sooner or later produces invalidism and death.

DEFINITION

Chronic constrictive pericarditis consists of a fibrous thickening of the walls of the pericardial sac which is so contracted that the normal diastolic filling of the heart is prevented. Stewart and Heuer have shown that this syndrome is associated with a decrease in the cardiac output per beat and per minute, rise in venous pressure and slowing of the velocity of the blood flow. The alteration in circulation appears to be dependent on two defects. In the first place, filling of the heart is compromised; and, second, the contraction of the heart is impaired. These two defects result in decreased cardiac output per beat and per minute and piling up of blood on the venous side.

SYMPTOMS AND SIGNS

The first symptoms of constrictive pericarditis are insidious in development, vague in character and seldom in the same combination in any two consecutive cases. As in many cardiac conditions, abdominal distress and epigastric pain may be the first complaint. Shortness of breath, usually without orthopnea develops sooner or later. Abdominal enlargement and edema of the feet are frequent but not always found.

The signs usually present according to White are:

1. Enlargement of the liver with no tenderness

*Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Gearhart, Ore., Sept. 6-9, 1939.

and no pulsation, usually but not always accompanied with marked ascites.

2. Enlargement of the jugular veins with or without pulsation and a venous pressure of 20-30 cm., three times above normal.

Edema of the head and neck has been reported only in two cases in my limited survey of the literature, and in both cases in the presence of calcification. The edema is present in the morning and disappears after the patient is up and around for a few hours. Cyanosis may accompany the dilated jugulars.

3. The size of the heart is usually normal or only slightly enlarged; the heart sounds are normal with few exceptions. The heart rate is not increased in keeping with the dyspnea and cyanosis. The blood pressure and pulse pressure are invariably low.

4. On roentgen examination the pulsation of the heart varies from fairly free on both sides to little or none. A common finding is free pulsation at the apex and left border with no pulsation on the right border. The supracardiac shadow is usually increased, apparently due to dilatation of the superior vena cava. Pericardial calcification is present in about half the cases, but its accidental finding does not necessarily mean that constrictive pericarditis is present.

5. The electrocardiogram shows low voltage and so-called coronary T waves. The important clues to a diagnosis, then, are the insidious onset of dyspnea and dropsy in a young person with a normal or relatively normal heart without nephritis, engorgement of the jugular veins, paradoxical pulse and roentgen evidence of poor pulsation, and calcification.

It has been taught for years that a diagnosis of adherent pericarditis depends on the presence of Broadbent's sign. This sign is almost never found. In fact, in thirty cases reported by various authors, only one case had Broadbent's sign.

CASE REPORT

The patient was a white farmer, aged 60, seen at his home in January, 1939, suffering from shortness of breath and epigastric pain. He had had no serious illness until 1929, at which time he went to bed for about a month, due to shortness of breath and temperature of short duration. He carried on his strenuous farm activity with only moderate difficulty until 1934, when he had a similar attack of dyspnea, this time accompanied with epigastric pain. In 1937 the epigastric pain became severe and he had some bloating of the abdomen and dyspnea. He consulted various physicians who could offer no explanation of his difficulty, but treated the condition as a digestive disturbance, with no benefit. From that time on his condition became steadily worse, and for the last two weeks he was not able to get out of the house.

Six months ago he noticed that frequently his head and neck would be swollen in the morning and on these occasions his abdominal distress would be worse. After being

up and around for a few hours his head and neck would assume normal proportions. For the past two months the epigastric pain and sense of fullness in the abdomen had been very distressing.

A complete gastrointestinal series of roentgenograms had been taken on the recommendation of another physician one month before and nothing found. His chest was fluoroscoped at that time but the very apparent cardiac condition was not noticed.

Examination revealed a muscular male of 60, lying flat in bed in apparent respiratory distress. The head, neck and fingernails were cyanotic but not his feet and toe nails. The cervical veins were dilated and pulsating. The head and neck had a swollen appearance with pitting edema of forehead and angle of the jaw.

The pulse was almost impossible to get at the wrist and paradoxical pulse was very definite. At the apex the heart rate was found to be 80, the rhythm absolutely regular and no murmurs were heard. The heart was apparently not enlarged. The chest was negative except for slight dullness on the right base posteriorly. Abdomen was not distended. Liver margin was found 3 cm. below costal margin but was not tender. The prostate was moderately enlarged and had been giving him some obstructive symptoms. There was no edema of the ankles. Blood pressure was 100/70.

Here was a chronically cyanotic, dyspneic man with edema of the head and neck, dilatation of the jugular veins, an apparently normal heart and inconsequential lung findings and without doubt gravely ill. Truly a problem in anybody's farm house.

He certainly had an obstruction to the superior vena cava. Probably due to the fact that we had seen a similar case several years ago, a diagnosis of calcification of the pericardium was made with the reservation that a mediastinal tumor might be present.

Fluoroscopy the next morning revealed a small heart surrounded by calcification and with no pulsation whatever. The supracardiac shadow was enlarged and the aortic bulb quite prominent. There was a small amount of fluid in the right chest. Urinalysis showed 2 plus albumin and hyaline casts. The blood picture was normal with 97 per cent hemaglobin and no eosinophiles. The Kahn test was negative.

Due to the age of the patient, surgery was not indicated. He became steadily worse during his stay in the hospital, and died the tenth day after admission.

At autopsy about a pint of fluid was found in the right chest cavity. The small heart was covered by a dense calcified pericardium, firmly adherent to the myocardium and great vessels. The calcification varied from paper thinness to an eighth of an inch thick. The pericardium was so densely adherent that it was difficult not to tear the flabby myocardium in removing the calcified mass. The heart muscle was discolored and hemorrhagic and we thought that a coronary artery thrombosis had probably taken place.

SUMMARY

Chronic constrictive pericarditis is not an extremely rare disease, but is one of the most difficult cardiac conditions to diagnose, due to the lack of uniformity of signs and symptoms. There are certain clues that will lead us to a correct diagnosis.

One case of chronic constrictive pericarditis with calcification is reported, in which diagnosis was made before death. One of the unusual symptoms in this case was edema of the head and neck present in the morning, and subsiding after sitting up for a few hours.

BILATERAL ANTERIOR LENTICONUS

WITH CONGENITAL DISCOID PUNCTATE CATARACTS

C. F. HARRIS, M.D.

KLAMATH FALLS, ORE.

H. J., male, presented himself seeking aid for poor vision. Found a well nourished man, of fair intelligence, single, who gave a history of poor vision since birth. Had apparently been told by his mother he was unable as a child to see distinctly, since he had difficulty in orienting himself by sight. Went through grade and high school with difficulty, and was forced to quit schooling at about the age of sixteen, when his vision suddenly and rapidly became worse. Vision quickly attained a maximum of poorness, and has remained about stationary from that time to date. Says he was examined by two midwestern optometrists, and told aid was impossible.

Family history brought out the fact his mother has had poor vision her entire life, but limited means compelled her to be satisfied with what she has, and to the boy's knowledge has never consulted an oculist. Has one sister with good vision so far as known. An aunt on mother's side has poor eyesight, also several children of this woman suffer with subnormal vision.

During consultation and while obtaining history his eyes had a peculiar sheen which I had never seen before. With indirect light the anterior chambers of both eyes seemed to be somewhat shallow and rather luminous, also the sphincter irides appeared to bulge slightly forward. By direct light both eyes had an "oil drop" appearance. Both pupils were about 4 mm. in diameter, reacting only slightly to light. Tension, O. D. 22, O. S. 20 mm. (S). Manifest vision 20/200, O. U. vision did not improve in a semi-darkened room.

Homatropine and cocaine were used as a mydriatic and cycloplegic. Both eyes dilated evenly and well, with no synechiae and no increase in tension. Pupils after dilatation were 8 mm. A distinct bulging could now be seen through pupillary openings (fig. 1). Ophthalmoscopic examination revealed almost identical conditions of both eyes. There were no opacities of the corneas nor anterior lens capsules, both irides appeared normal. I found identical lens opacities in both eyes.

Both opacities were perfectly round, about 4 mm. in diameter, consisting of very finely granular material, superimposed, upon which but not extending quite to the periphery were many greyish blue dots arranged in half circles, and these again adhering to a general circular pattern. The center of each opacity had more layers than the periphery and appeared darker. Each entire opacity was slightly behind the center of the lens with its center approaching the center of the nucleus, as if the punctate dots had been piled up, making each opacity slightly cone-shaped. Only the periphery of each fundus was visible with a minus 2 lens in aperture. Each lens anterior to the cataract was clear with the ophthalmoscope.

Low power slit lamp did not reveal any area of opacity in either cornea, either anterior capsule or anterior substance of either lens. Descemet's membranes had not been ruptured. The anterior "Y's" were visible but distorted. It did reveal each anterior capsule and lens substance, globular in form, protruding through the pupils, and approaching to within approximately $\frac{1}{2}$ mm. of the posterior surfaces of each cornea. Projecting forward in each lens from main opacity could be traced a few flocculent, greyish white deposits. An occasional similar one could be seen at the periphery of each lens substance. Far anteriorly each lens was clear (fig. 2).

There was (figs. 1, 2.) perfect projection and perception of light. Retinoscopy was impossible, although at the periphery of the fundi I could obtain a marked myopic shadow.

Fields were not possible. Vision could not be aided with the trial case.

I kept this man as long as I could the first time I saw him, and he was to return in a few days for further observation, for blood Wassermann, blood and urinary chemistry. To date, however, I have been unable to get him in.

This is a case of bilateral anterior lenticonus, with bilateral, congenital, discoid, punctate cataracts. It is very probable that the anterior lenticonus is also a congenital affair. So far as I can find in the literature the last case of anterior lenticonus to be reported as number eleven was by Moulton.¹ I am reporting this as number twelve of anterior lenticonus, and the first one to be reported with marked bilateral cataracts of the type found.

All authorities seem agreed on the rarity of the

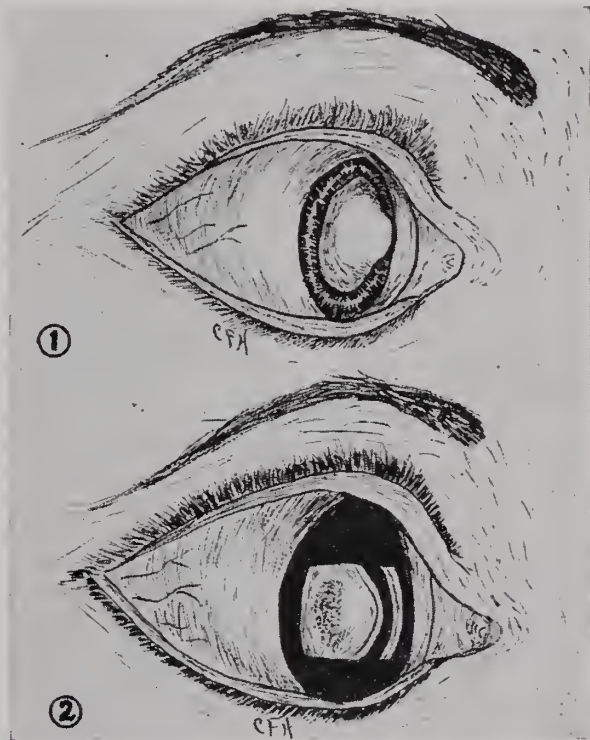


Fig. 1. Shows marked bulging forward of lens and capsule.

Fig. 2. Appearance with low power slit lamp.

condition and the few cases reported surely bear them out. I have the promise of this man to be able to see his mother in the near future. Inasmuch as her vision is faulty, it may be interesting to find her afflicted with discoid cataracts or with anterior lenticonus. The history of familial poor vision suggests another Coppock family as reported by Nettleship and Ogilvie.

According to Clapp,² these discoid opacities may

1. Moulton, E. C.: Anterior Lenticonus. J.A.M.A., 107: 1809-1810, Nov. 28, 1936.

2. Clapp, C. A.: Cataract, Its Etiology and Treatment. Lea & Febiger, Philadelphia, 1934.

be so fine that the patient may not notice them. The condition is bilateral, with very little known of its etiology and the opacity is usually a sharply defined circular disc.

Punctate cataracts are fine points. According to Clapp, and de Schweinitz,³ they are congenital, steel blue, usually found in the pupillary area, but may be found in other parts of the lens and present a familial tendency. Koby⁴ feels the opacities are congenital, but do not rapidly develop before the fifteenth year. This may account for the rapid loss of considerable vision, causing this man to quit school.

Rones⁵ cites ten cases of true anterior lenticonus which apparently are clear cut. This was before Moulton reported his case number eleven. He went thoroughly into the literature and found cases he could question. These were ones following contusion and injuries, bilateral corneal opacities at birth, convergent squint, opaque cone, etc. I am not intending to recapitulate the literature, as his article is a thorough resume.

Rones feels a true anterior lenticonus must not show evidence of any fetal malformation or any inflammatory process that may have caused an adhesion, or at least an adhesive process, between the anterior capsule and Descemet's membrane. Also, this latter structure must not show any evidence of old rupture.

Rones favors the work of Seefelder and Wolfrum,⁶ who offered two theories favoring the anatomic anomaly of anterior lenticonus. Either it results from too great a fluid intake from the tunica vascularis lentis, or a too large albuminous content had interfered with the exchange of fluids.

SUMMARY

I am presenting this case as a true bilateral anterior lenticonus, complicated by bilateral discoid, punctate cataracts, because of the oily appearance with direct light, the bulging forward of the anterior capsules and lens substances nearly to the posterior surfaces of the corneas, in what was probably a myopic eye.

It may be argued this is a lentiglobus rather than lenticonus. I cannot see that this makes any difference. There were no opacities or scars in either cornea, either Descemet's membrane or anterior capsules, to show they were other than true anatomic anomalies.

IDEAL VACCINATION TECHNIC

H. M. PAGE, M.D.

PORTLAND, ORE.

Smallpox is like the army of the unemployed; it is with us always. What can the general practitioner do to reduce the morbidity and mortality of smallpox? The way has been shown by vaccination. The story of this achievement is a fascinating one.

The first successful cowpox inoculation was done in England in 1774¹ on dairy maids. To Edward Jenner is due the honor of introducing vaccination and publishing his successful results in 1798². For twenty years before the presentation of his famous case history he was certain of the soundness of his observations and of his deduction regarding vaccination³. Benjamin Waterhouse, Professor of Physic at Harvard, introduced vaccination into this country by vaccinating his own son, July 8, 1800⁴.

History and experience teach us that medicine is a progressive science, that its practice is a progressive art, that crude methods of the past differ from the improved methods of the present, that mass production was not unknown in the nineteenth century. Within my own memory children in the primary grades were vaccinated at school with the same quill, without sterilization, from one donor to several recipients.

While the technic of vaccination today has improved concurrently with the development of the sterile needle and the aseptic tube of lymph, yet the importance of changing the site of the vaccination from the time-honored insertion of the deltoid has not been recognized. The departure from the customary site of the deltoid to the prominence of the belly of the biceps was first brought to my attention by Hill⁵, Provincial Health Officer of British Columbia, who demonstrated that site and his technic before the Oregon State Medical Society in Portland in 1921⁶. Hill's site lessens the chances of trauma by accident to and during the "take."

The site I have selected not only fulfills Hill's requirement, but also conceals the vaccination scar. His technic I have simplified. The site and technic I am about to describe I have used since 1922.

Thoroughly cleanse the arm with acetone or alcohol, covering an area of two inches square at

3. de Schweinitz, G. E.: Diseases of the Eye. W. B. Saunders, Philadelphia, 1924.

4. Koby, F. E.: Slit Lamp Microscopy of the Living Eye. P. Blakiston's Son & Co., Philadelphia, 1925.

5. Rones, B.: Anterior Lenticonus. J.A.M.A., 103:327-330, Aug. 4, 1934.

6. Seefelder & Wolfrum: Arch. f. Ophth., 65:320-325, 1907.

1. Musser, J. H.: Virus Diseases. Internal Medicine, Lea & Febiger, Philadelphia, 1936.

2. Jenner, E.: Inquiry into Causes and Effects of Variolae Vaccinae, London, 1798.

3. Edwards, A. R.: Principles and Practice of Medicine, p. 77, 1907.

4. Packard, F. R.: History of Medicine in the United States, p. 89. Paul B. Hoeber, Inc., New York, 1931.

5. Hill, H. W.: Acupuncture Best Method of Vaccination against Smallpox. Canad. Med. Assn. J., 6:193, March, 1916.

6. The writer volunteered his arm for demonstration.

the inner border of the belly of the biceps. Break both ends of the capillary tube containing the vaccine, grasp the arm opposite the biceps to make the skin taut, and allow the drop of lymph to be placed on the selected site. Make multiple punctures, six or eight being sufficient, through the vaccine with a sterilized cambric needle held parallel to the skin. It is superfluous to make more than one wound of five millimeters in diameter. The best technic breaks the cuticle but does not bring blood. It is sufficient if the vaccine dries but partially. Wipe off the excess. Apply no dressings.

Why choose this site in preference to all others?

1. The danger of infection or incapacity is no greater than on the outer side of the arm or thigh.

2. The fear or expectancy of painful lymph node involvement in the axilla is groundless. No untoward sequelae have occurred in my practice.

3. Woman has not enhanced her beauty or become more fashionable by the exposure of a vaccination scar when she is formally gowned on dress parade.

4. Her morale is elevated by the consciousness that her vaccination scar is concealed from view. To paraphrase Keats I would say, a vaccination scar is neither a thing of beauty nor a joy forever.

5. In my general practice the invariable objection by mother or daughter to vaccination has been not to the use of the vaccine, but to the anticipated exposed scar. That objection is no longer tenable.

6. After a boy has been vaccinated he invariably tells his playmates, and with a protecting hand immediately covers the arm when the site has been on the outer side. Yet no sooner does he drop his hand than his companion strikes the arm with his fist to learn whether the blow produces pain. If the site I am advocating were selected, the youngster might challenge his playmate to strike his arm, for this site is always protected both from the assaults of good fellowship and from any injury by himself, as the arm cannot contact any part of the body.

When both the profession and the public know the advantages of this site the greatest objection to vaccination will be overcome. Vaccination must be made popular. We must give it speed. The baby should receive its first experience in preventive medicine by being vaccinated on its first anniversary. Every vaccinated child should be tested for its immunity by the seventh year, and revaccinated if necessary. Universal vaccination within one generation would cause smallpox to vanish from the earth.

PNEUMOCOCCAL MENINGITIS TREATED SUCCESSFULLY*

CASE REPORT

SILVIO VUKOV, M.D.

SEATTLE, WASH.

A case of pneumococcal meningitis, successfully treated by the intravenous administration of specific antiserum in conjunction with the oral administration of sulfapyridine, is apparently the first case to be reported of type XI nature. A few individual cases of pneumococcal meningitis have been reported during the past year as having had dramatic cures with sulfanilamide and specific antisera.

In 1937 Caldwell¹ reported one of the earliest cases successfully treated with sulfanilamide. Query² reported a single case of type VII complicated by pneumonia. Neal,³ in 1939 reported four cases of types 31, 29, 4, 13. Cunningham⁴ and Barnett⁵ reported individual cases of types I and V as having been treated with sulfapyridine and type specific rabbit serum.

It is interesting to note that in most of these cases the intrathecal serum administration had been used in conjunction with the intravenous administration. In fact, the intraspinal administration of prontosil was also resorted to by Neal. In his series there were four recoveries out of thirty-two cases. Prior to the advent of sulfanilamide, during twenty-seven years of experience at Bureau of Health at New York pneumococcal meningitis had been uniformly fatal.

In King County Hospital since 1931, there have been thirty-two cases of pneumococcal meningitis. All except this case have terminated fatally; only two cases have been treated with sulfapyridine. One died and one recovered.

Different types of pneumococcus represent varying virulence. The large Bellevue series places type II and III as being most virulent, IV next and type I least. Our case, being type XI, falls in group IV, therefore of moderate comparative virulence.

Musser states, "pneumococcal meningitis may occur either as a metastasis in pneumococcal septicemia or as an extension from an infected sinus, or

*From Department of Pediatrics, King Co. Hospital, Seattle, Wash.

1. Caldwell, J. R. and Byrne, P. S.: Recovery from Pneumococcal Meningitis. *Brit. M. J.*, 1:1204, June 12, 1937.

2. Query, R. Z.: Pneumococcus Type VII Meningitis, Treated with Sulfanilamide and Specific Serum with Recovery. *J.A.M.A.*, 111:1373-1374, Oct. 8, 1938.

3. Neal, J. B.: Treatment of Infections of Central Nervous System with Special Reference to Sulfanilamide. *J. M. Soc.*, New Jersey, 36:8-15, Jan., 1939.

4. Cunningham, A. A.: Pneumococcal Meningitis Treated with Sulfanilamide and M. & B. 693. *Lancet*, 2:1114-1115, Nov. 12, 1938.

5. Barnett, H. L. et al: Treatment of Pneumococcus Infections in Infants and Children with Sulfapyridine. *J.A.M.A.*, 112:518-527, Feb. 11, 1939.

it may occur as an infection of a traumatized area such as would follow radical drainage of the sphenoid sinus or skull fracture."

In times of epidemics of respiratory infections, rarely in other times, there may be cases of primary pneumococcal meningitis without known preceding injury or infection and without preexistence of pneumococcal pneumonia. Of the various types of pneumococcal meningitis those which seem to be primary are the most dangerous.

The case to be presented falls in the last type mentioned. There was no associated pneumonia, no apparent trauma but there was a coexistent upper respiratory infection.

CASE REPORT

R. S., 5 years old, was admitted on August 5, 1939. There was a history of illness which had started with a cold. During the four days prior to admission the child had developed fever. He became restless, listless, vomited almost constantly, and complained of severe headache and stiffness of neck. Past history was essentially negative, no exposure to any infectious disease.

On admission physical examination showed a listless, lethargic, dehydrated and somewhat toxic child. There was definite irritation of the respiratory passages, a residuum of upper respiratory infection. Neurologic examination revealed a definite nystagmus and internal strabismus of the left eye. The neck showed beginning rigidity. Kernig and Brudzinski signs were positive.

Spinal puncture was performed, the fluid being turbid and under slightly increased pressure. Analysis showed 673 cells, positive globulin, and a sugar level of 40 mg. No organisms were found on smear. A culture was taken. The child was immediately placed on sulfanilamide and sodium bicarbonate.

During the two following days the child's condition became worse. Toxicity and dehydration became more pronounced. Neurologic signs were more manifest. Temperature increased. Spinal count increased to 1892. Because of lack of findings of any specific organisms during the first analysis of the spinal fluid and since influenzal meningitis is so notorious of recognition on smears, it was assumed that this was an influenzal meningitis. Antiinfluenzal serum was obtained and given after preliminary desensitization, the child having elicited a 4 plus reaction to the skin tests.

Following the treatment outlined there was no clinical or laboratory improvement. Temperature rose to even higher levels, toxicity became more pronounced, the child was very lethargic and close to death. Repeated transfusions and isotonic solutions were given intravenously. The case appeared hopeless.

On the fourth day the laboratory reported the culture and isolation of type XI pneumococcus. On obtaining this information the child was immediately placed on sulfapyridine, of which 5 grains were used with equal amount of sodium bicarbonate at every four hour interval. The type specific antiserum was obtained from San Francisco and administered after preliminary conjunctival tests. Serum was administered in small fractions of 2 cc. at a time by insertion into the tubing of a continuously running intravenous solution. This maintained adequate dilution. During a period of six hours 10 cc. or 60,000 units were given. There was no reaction. Following the serum a transfusion was given which was followed by two chills.

Following the administration of antiserum there was an almost immediate improvement. The following morning the child became alert, talkative. He played with his toys,

readily accepted food and medication. He even wanted to know when he could go home. The temperature started to decline and continued to do so for almost three days. Neurologic signs showed a definite regression. Spinal fluid showed a drop in the cell count to 623 and sugar level began to rise.

On the third day after serum administration the child again became worse. Temperature started to rise and signs of reinfection were present. Blood count revealed a leukocytosis of 29,800 cells with 86 per cent polymorphs. Spinal tap showed a rise of cell count to 2,130. These laboratory findings, plus the clinical picture, definitely showed that reinfection or exacerbation of subsiding infection was now present. During this time sulfapyridine had been continuously maintained.

Because of recurrence of infection we resorted to a second administration of 60,000 units of specific rabbit antiserum. Again following this administration there was unmistakable immediate improvement which continued till recovery. Temperature gradually dropped to normal. Clinical signs disappeared entirely. Nystagmus and left internal strabismus were completely cleared.

Just prior to discharge a spinal puncture was performed. The fluid was under normal pressure, clear and flowed evenly. The Queckenstedt test was normal. Analysis showed 4 cells, negative globulin, and 50 mg. of sugar. The child was discharged August 23.

During the course of our treatment it will be noticed that several transfusions were given. The purpose of these was to combat the constant tendency towards anemia, resulting both from infection and sulfanilamide-pyridine administration. Another important purpose of the transfusions was supplying of complement for complement reaction. It will also be noticed that serum was administered in a diluted form over a somewhat prolonged period of time. This was done to decrease the tendency to any reaction. In our case this was more important because patient elicited a very potent sensitivity.

CONCLUSIONS

No definite conclusions can be drawn from a single case, but in conjunction with other cases individually presented in the literature we can conclude the following:

1. Use of serum in conjunction with sulfapyridine is more effective than either one alone. This adds more proof to Osgood's classic work at Oregon.

2. Intrathecal administrations in treatment of pneumococcal meningitis may not be necessary. In fact, it may be dangerous as introduction of foreign irritants into a delicate tissue as subarachnoid space may cause worse reaction than the primary disease per se. In this respect intrathecal medication may be compared to treatment of diphtheria by swabbing the throat with antitoxin instead of introducing it parenterally. Recourse to a picture of the cerebrospinal fluid circulation will show that by intrathecal treatment only a small area of infection will be contacted by the medicinal agent, whereas, via the vascular bed all parts of the meninges and brain will be reached.

STATE SECTIONS

**OREGON STATE
MEDICAL SOCIETY**



**SIXTY-SIXTH ANNUAL
MEETING, EUGENE, SEPT. 4-7**

ORGANIZATION ACTIVITIES

COUNCIL AND BUREAU OF MEDICAL ECONOMICS OF OREGON STATE MEDICAL SOCIETY held a joint meeting in Portland May 11. It was preceded by a meeting of the Executive Committee. George Henton reported that the Medical Service Bureaus, Hospital Associations and the Oregon State Pharmaceutical Association in a joint meeting adopted a resolution that there would be no more contracts written to include drugs after May 1, 1940, and that after 1941 all contracts would have drugs eliminated. This resolution is the direct result of the Bureau of Medical Economics working in cooperation with other associations and is a big step forward.

The Council confirmed the appointment of John Besson to the Bureau of Medical Economics to replace S. H. Sheldon.

C. E. Sears reported for the Committee on Cancer Control and stated that the Woman's Field Army had received \$1700 in pledges as a result of a local campaign. This indicates that the public is very interested in the problem and is willing to lend its support. Dr. Sears stated that the public was asking for further information along the line of Cancer Control and the program of the Cancer Control Committee is to educate the public in early findings of cancer and to recall to the profession the necessity for early diagnosis and treatment of cancer. He further urged that the counties appoint Cancer Control Committees immediately so that these activities can be pursued in the separate counties with a maximum of effectiveness.

COMMITTEE ON POSTGRADUATE EDUCATION

This Committee has given careful consideration to the type of program of instruction to be offered to the medical profession of the state.

The Committee submits the following recommendations:

1. That for the next three years the instruction offered by the Society consist of a centralized course to be offered in connection with the annual session.
2. That the Society act as a clearing house of information concerning all sources of postgraduate instruction in the state for the purpose of avoiding duplication but not to impose its desires on district medical societies and other organizations offering postgraduate instruction.
3. That the Society assume the responsibility of publicizing to the medical profession of the state all the available forms of postgraduate instruction through NORTHWEST MEDICINE and other proper media.

KARL H. MARTZLOFF, *Chairman*
H. J. CLEMENTS
MORRIS L. BRIDGEMAN

THE COMMITTEE ON PUBLIC POLICY was requested to cooperate with the State Board of Health in drafting a

Venereal Disease Act which would be compatible with all the agencies concerned.

BUREAU OF MEDICAL ECONOMICS

THE BUREAU OF MEDICAL ECONOMICS gave its approval to the proposed affiliation of the Tillamook Hospital with the Physicians and Surgeons Hospital Association of Salem.

MR. JOHN CAUGHELL, Secretary of the Bureau of Medical Economics, gave a resume of his activities for the month and of the proposed activities for the ensuing few months. This office, so recently created, is besieged already with requests for assistance and analysis of various problems by groups of interested physicians in different parts of the state. One of the major accomplishments was the working out of the problem of the Coos Bay Hospital Association which had a limited membership. As a result of a conference of interested parties with Mr. Caughell and Mr. Willard Marshall, of the Physicians and Surgeons Hospital Association of Salem, mechanical problems were worked out for converting this limited membership into a county or regional bureau.

Mr. Caughell further reported that the next point of attack is in the Bend district which offers a peculiarly complex situation. He further urged that local communities be notified that labor unions are planning to organize hospital associations and that they will undoubtedly tackle those communities in which there is no local professional unity.

SOCIETY MEETINGS

CENTRAL WILLAMETTE COUNTY MEDICAL SOCIETY

Central Willamette County Medical Society met in Albany May 2, and was addressed by R. Yorke Herran of Portland on "The Recognition and Early Treatment of Acute Head Injuries."

LANE COUNTY MEDICAL SOCIETY

The annual nonscientific meeting of Lane County Medical Society was held in Eugene May 17. Ladies were invited and the meeting was devoted exclusively to art. Dr. Neal presented moving pictures of Central American Explorations and Beauties.

YAMHILL COUNTY MEDICAL SOCIETY

Yamhill County Medical Society met in McMinnville May 7. A symposium on "Fluid Administration by Parenteral Methods" was presented by four Portland speakers, A. W. Holman, L. P. Gambee, H. P. Rush, and T. D. Robertson.

MULTNOMAH COUNTY MEDICAL SOCIETY

The regular May first meeting of Multnomah County Medical Society was omitted in favor of the Postgraduate Session of the U. of O. Alumni Association. The regular meeting of May 15 took place as usual. Ray W. Hausler presented a paper entitled "Streptococcic Infection in Relation to Pathological and Clinical Findings."

SOUTHERN OREGON MEDICAL SOCIETY

The 49th Annual meeting of Southern Oregon Medical Society met in Ashland May 14. Papers were presented as follows: "Examination, Diagnosis and Treatment of Diarrheas" by Banner R. Brooke, Portland; "The Program of the Oregon State Medical Society," by Charles E. Hunt, president of the State society, Eugene; "The Diagnostic Value of Certain Cutaneous Symptoms," by Lyle B. Kingery, Portland; "The Problem of Atherosclerosis and Atherosclerotic Heart Disease," by Noble Wiley Jones, Portland; and "Biliary Tract Surgery," by Eugene Rockey, Portland. The meeting next year will be held in Klamath Falls. Ralph W. Stearns, Klamath Falls, was elected president for next year, and Frederck C. Adams, Klamath Falls, secretary.

UMATILLA COUNTY MEDICAL SOCIETY

Umatilla County Medical Society met May 14. A series of case reports and discussions was presented by local members of the society. Subjects presented were: "A Case of Renal Calculus" by G. McBee. "A case of Apoplectiform Type of Repeated Seizures Due Possibly to Cerebral Thrombosis or Possibly to Vasomotor Spasm." "Case of Upside Down Gastrointestinal System," presented Dr. J. Brennan.

WOMAN'S AUXILIARY

MID-COLUMBIA COUNTY AUXILIARY met for dinner in April at Columbia Gorge Hotel (near Hood River) and then went to the home of Mrs. C. E. Hardwick in Hood River for the monthly meeting. About twelve members were present. The auxiliary entertained all women's groups in the district at a tea on May 16, at which John H. Fitzgibbon of Portland (delegate from Oregon to the A.M.A.) was guest speaker.

LANE COUNTY AUXILIARY met in April at the home of Mrs. H. H. Norton in Eugene. Mrs. James M. Odell of The Dalles, State President of the Oregon auxiliary, and Mrs. Frances Hosford of Portland, state chairman for the cancer control committee, were present as dinner guests, and spoke to the thirty members present. In May the auxiliary will be entertained by their husbands at the annual banquet to be held in Eugene.

MULTNOMAH COUNTY AUXILIARY met in May at the home of Mrs. J. J. Rosenberg in Portland. This was a "membership tea," to which many prospective members were invited. Mrs. Merle Moore was in charge.

CLATSOP COUNTY AUXILIARY met March 15 in Astoria at the home of the president, Mrs. J. V. Straumfjord. Sewing was done for the Doernbecher Children's Hospital in Portland. On April 8 the group entertained Mrs. J. M. Odell, with an enjoyable luncheon at the Ocean Home Farm in Gearhart. Twelve members were present to meet and chat with the state president. On April 16 the auxiliary met at the home of Mrs. A. G. Allen to finish sewing the garments which were sent to Doernbecher Hospital. A new member,

Mrs. Donald C. Prentiss of Astoria, has been welcomed into the group.

DORIS ABELE (Mrs. JOHN F.)

Press and Publicity

MEDICAL NOTES

THE 28TH ANNUAL POST-GRADUATE SESSION of University of Oregon Alumni Association was held in Portland May 1-3. The guest speakers were F. H. Falls, obstetrician and gynecologist, University of Illinois, Chicago; Harry Dietrich, pediatrician, Beverly Hills, California; and Edwin Bannick, internist, Seattle.

Officers elected for the coming year are: Wilbur M. Bolton, Portland, president; Carl G. Ashley, Portland, first vice-president; John W. Unis, Seattle, second vice-president; Clarence L. Gilstrap, La Grande, third vice-president; Norris R. Jones, Sacramento, fourth vice-president; Edmund H. Berger, Portland, Secretary; and Richard B. Adams, Portland, treasurer.

AT THE DALLES, J. H. Fitzgibbon gave two addresses on medical economics and the viewpoint of the medical profession toward the health program of the federal government. The first was before The Dalles Kiwanis Club, and the second was before the representatives and members of womens clubs and health associations of Wasco and Hood River counties. To the medical men in the evening, Clyde Foley discussed the organization of the State Society; Charles E. Hunt discussed in general the program of the Society; and Karl Martzloff discussed the low wage income group and the problems in relation to it.

CRIPPLED CHILDREN CLINICS, as part of the crippled children's program of the State Public Welfare Commission, were held in several parts of the state. In Lane County, the clinic was held in Eugene May 8 and 9, with Otis F. Akin the examining orthopedic physician. Klamath and Lake Counties held a clinic in Klamath Falls May 20 and 21, with Harry C. Blair as examiner, and R. B. Dillehunt was examiner for Clatsop County at Astoria on May 28.

OREGON HOSPITALS held open house May 12 in observance of National Hospital Day. Florence Nightingale was also honored during the day.

GERALD G. VAN DER VLUGT, former Wasco county physician, has established private office at Prairie City.

K. E. SANDBANK has become associated with Dr. Tomlinson in the Willamina Hospital at Willamina. Dr. Sandbank studied in New York, Glasgow, London, Dublin and Berlin, and for the past three years has been house physician at Bellevue Hospital, New York.

U. O. McLAFFERTY, formerly of Soquel, California, has opened an office in North Bend.

W. H. BUEERMAN, Portland, addressed the opening session of California Medical Association, May 6, at Coronado, California on the operation of the Multnomah Medical Service Bureau, of which he is president.

OBITUARY

DR. M. EARL WILSON of Coquille died April 27, at the age of 44, as result of subacute bacterial endocarditis superimposed on chronic rheumatic endocarditis. Dr. Wilson was a graduate of the University of Oregon Medical School and had previously been in practice at Myrtle Point and Marshfield before settling in Coquille eight years ago.

LEGAL MEDICINE

AMERICAN MEDICAL ASSOCIATION AND OTHER
DEFENDANTS PETITION SUPREME COURT OF
THE UNITED STATES FOR REVIEW OF THE
DECISION OF THE UNITED STATES
COURT OF APPEALS IN
ANTITRUST SUIT

The American Medical Association, other medical societies and individual defendants in the antitrust suit brought against them by the Federal government have petitioned the Supreme Court of the United States for a writ of certiorari to review the decision of the United States Court of Appeals, which decision was contrary to the position taken by the defendants.

A writ of certiorari may be defined as follows: A writ issued by a superior court to an inferior court, requiring the latter to send up some proceedings pending therein, or the record and proceedings in some cause already terminated; a petition for such a writ is granted or refused in the discretion of the Superior court.

The Supreme Court of the United States has laid down rules under which it will review the decision of a lower court in certain instances. In order to do so, the person seeking a review must file a petition setting forth at least one valid ground of review.

The defendants in this particular case set forth as reasons for the allowance of the writ:

1. The court below decided Federal questions, in conflict with, and without giving proper effect to, applicable decisions of the Supreme Court;

2. The opinion below has decided important questions of local law in conflict with applicable local decisions;

3. The court below has decided important questions of general law in conflict with the weight of authority, including decisions of both Federal and state courts;

4. The court below has decided questions of Federal law and general Federal importance, including the construction and application of the Constitution and statutes of the United States, which should be settled by the Supreme Court.

In their petition the defendants have attacked the indictment as being indefinite and prejudicial. The District Court for the District of Columbia had decided that the indictment was indefinite and prejudicial, but the United States Court of Appeals reversed this decision of the District Court.

The defendants also contend in support of their petition for a writ of certiorari that the Sherman Antitrust Law is not applicable to the situation set forth in the indictment because the practice of medicine is not a trade within the purview of the Sherman Act and because the actions set forth in the indictment are merely disciplinary proceedings conducted under the rules and regulations of the various societies involved.

If the Supreme Court grants the petition of the defendants, the important matters decided by the United States Court of Appeals will be considered by the Supreme Court and a decision can be anticipated in the fall. If the Supreme Court decides that the indictment was not sufficient, the case would probably be ended. If the Supreme Court decides that the indictment was sufficient, the reasoning of the court should go far in clarifying the law on many disputed points and in aiding the court which eventually has to try the case on its merits.

U. OF O. MEDICAL SCHOOL

The following students will receive the degree of Doctor of Medicine on Friday, June 7, at 8:00 p.m., when for the first time commencement exercises for medical students will be held in Portland on the campus of the Medical School. Indicated below are the hospitals wherein they will serve internship, starting July 1 of this year:

Brilhart, K. B., Swedish Hospital, Seattle, Wash.
Bennett, Woodson, Good Samaritan Hospital, Portland.
Bryant, J. T., French Hospital, San Francisco, Calif.
Clark, T. H., King County Hospital, Seattle, Wash.
Curran, R. L., Multnomah Co. Hosp., Portland, Ore.
Davis, Harold, Emanuel Hospital, Portland, Ore.
Day, Robert, St. Vincent Hospital, Portland, Ore.
DeLateur, Conrad, King County Hosp. Seattle, Wash.
Emmel, Harry, King County Hospital, Seattle, Wash.
Draper, Oliver, San Diego Co. Hosp., San Diego, Calif.
Fortner, Lucille, Parkland Hospital, Dallas, Texas
Fluke, Charles, U.S.Mar. Hosp. (USPHS) San Fran., Cal.
Franco, Robert, Michael Reese Hosp., Chicago, Illinois
Galbraith, James, King County Hospital, Seattle, Wash.
Goiney, Bernard, King County Hospital, Seattle, Wash.
Gron Dahl, Jack, Good Samaritan Hosp., Portland, Ore.
Hayter, Robert, Multnomah County Hosp., Portland, Ore.
Jones, William, State of Wis. Gen. Hosp., Madison, Wis.
Jones, Russel, Ancker Hospital, St. Paul, Minn.
Kaufman, Charles, Multnomah Co. Hosp., Portland, Ore.
Lockwood, Milton, Emanuel Hospital, Portland, Ore.
Long, John, Alameda Co. Hospital, Oakland, Calif.
Lynn, L. J., Santa Barbara Gen. Hosp., Santa Barb., Cal.
McWilliams, W., U.S.Marine Hosp. (USPHS), Seattle.
Marcum, R. W., Multnomah Co. Hosp., Portland, Ore.
Mills, Waldo O., Multnomah Co. Hosp., Portland, Ore.
Morley, Leonard, Pierce County Hosp., Tacoma, Wash.
Nilsson, M. C., State of Wis.Gen.Hosp., Madison, Wis.
Noble, M. J., Hospital for Children, San Francisco, Calif.
Parrot, M. H., Multnomah County Hosp., Portland, Ore.
Richardson, H. L., Charity Hosp., San Bernardino, Calif.
Rawls, N. B., Emanuel Hospital, Portland, Oregon
Roberts, H. G., Multnomah Co. Hospital, Portland, Ore.
Rodda, J. S., Alameda County Hosp., Oakland, Calif.
Roley, W. C., Good Samaritan Hosp., Portland, Ore.
Ross, J. M., Ancker Hospital, St. Paul, Minn.
Ryan, Paul, Alameda County Hosp., Oakland, Calif.
Ruuska, P. E., Good Samaritan Hosp., Portland, Ore.
Saltzman, Benjamin, Gorgas Mem. Hosp., Ancon, Panama
Schroeder, H. J., Swedish Hospital, Seattle, Wash.
Sullivan, David, Multnomah Co. Hosp., Portland Ore.
Taylor, D. K., Emanuel Hospital, Portland, Oregon
Taylor, T. J., Swedish Hospital, Seattle, Wash.
Thornton, Elizabeth, Emanuel Hospital, Portland, Ore.
Webster, B. J., King County Hosp., Seattle, Wash.
Welch, J. D., Charity Hospital, New Orleans, La.
Westover, H. S., King County Hospital, Seattle, Wash.
Wilson, Roscoe, French Hospital, San Francisco, Calif.
Wood, M. T., Santa Barbara Cottage Hosp., S. B., Calif.

Of the forty-nine students graduating, 84 per cent will interne on the Pacific Coast, 10 per cent in the Middle West, and 6 per cent in the South. Eighteen (or 38 per cent) will interne in Oregon, twelve (or 24 per cent) in Washington, and eleven (or 22 per cent) in California.

NATIONAL BOARD MEDICAL EXAMINATIONS Part III will be held this year on June 24, 25 and 26, at University of Oregon Medical School. Parts I and II will be held on June 17, 18, and 19 at the same place.

DEDICATION EXERCISES for the new library and auditorium of the Medical School will be held on June 7, at 1:30 p.m. in the Auditorium of the Medical School, at which time a plaque of Dr. John E. Weeks will be unveiled, in honor of his munificence.

E. C. ROSENOW, Head of Department of Experimental Bacteriology, Mayo Foundation, Rochester, Minn., in response to an invitation by Dr. Dillehunt and Dr. N. W. Jones, delivered an address May 31 under the auspices of University of Oregon Medical School. The subject was "Studies in Specific Diagnosis and Treatment of Poliomyelitis and the Relation of Streptococci to Poliomyelitis, Encephalitis, Influenza and their Viruses." Members of Multnomah County Medical Society, as well as members of the staff and students of the Medical School were invited.

STATE BOARD OF HEALTH

Oregon Sets New Law for Infant Deaths

During 1938 and again in 1939 maternal and infant deaths in Oregon were the lowest since the state began the recording of such statistics in 1919. This fall in death rates is consistent with the national trend. Over a period of years there has been a gradual reduction of these deaths, reaching a new low in 1939. Preliminary reports indicate that the national rates will continue downward again in 1939.

Deaths Per 1000 Live Births

	<i>Maternal</i>		<i>Infants</i>	
	U.S.	Ore.	U.S.	Ore.
1919.....	7.4	10.1	86	64
1920.....	8.0	9.4	86	62
1925.....	6.5	6.1	71	51
1930.....	6.7	6.0	65	50
1935.....	5.8	5.5	56	41
1936.....	5.7	5.5	57	44
1937.....	4.9	3.6	54	42
1938.....	4.4	3.2	51	39
1939.....	*	2.6	*	34.7

The 1939 reports for other states are not available but to 1939 no state has ever recorded a lower infant mortality than that of 1939 Oregon, and only one state has ever recorded a lower maternal mortality than the Oregon 1939 rate, (North Dakota, 2.4 in 1938). In 1939 Connecticut and Nebraska each recorded an infant rate of 36, the lowest recorded at that time.

This saving of life in Oregon is a result of many factors and the efforts of many individuals and groups. Although these rates are low, they do not represent what is generally considered the irreducible minimum with present day medical knowledge. To achieve this will require the individual and cooperative efforts of private physicians, health and school departments. The public must be taught the value of adequate and proper care and such care must be available and rendered in accordance with advancing medical standards.

Venereal Disease Epidemiology Boon to Physicians

Private physicians in Oregon have recently been availing themselves of the Public Health Nurses for searching out lapsed cases and contacts of infectious cases of venereal disease. In Portland such activities are increasing monthly and have been responsible for the discovery of many hitherto undiagnosed cases of syphilis and gonorrhea and have returned many delinquent patients to treatment.

Doughnuts Poison Thirty-Seven

The Portland City Health Bureau recently traced the poisoning of thirty-seven people to custard filled doughnuts manufactured by a newly established firm which had not applied for a permit to operate. The afflicted people had symptoms consisting of vomiting, diarrhea, abdominal cramps, headaches and chills. Investigation excluded other

causes than the doughnuts and bacteriologic examination revealed the custard filling to be heavily contaminated with a toxin-producing staphylococcus. The manufacturing concern was required to discontinue operations until sanitary requirements had been met.

Health Educator Honored

Ethel Mealey, Consultant in Health Education in the Division of Maternal and Child Health, was elected vice-president and chairman of the Health Education Division of the American Association of Health, Physical Education, and Recreation at their annual meeting held in Chicago last month.

Health Officers to Attend School

Several Oregon Health Officers expect to attend schools of public health during the coming year. The first one to leave for the East will be Dr. Samuel D. Allison, Director of the Division of Venereal Disease Control, who will spend eleven months, beginning July 1, in the Syphilis Clinic and in School of Public Health of John Hopkins University, Baltimore. Doctor Allison spent a year as Fellow in Dermatology and Syphilology at University of Oregon Medical School, and has been employed by the State Board of Health for the last two years. Other health officers will attend Johns Hopkins, University of Minnesota and Yale during the regular winter session beginning late in September.

Annual Oregon Health Officers Meeting

The annual meeting of Oregon health officers, sanitarians, public health nurses and secretaries was held in Astoria May 23-25. A part of the meeting was held in conjunction with the league of Oregon cities. This joint meeting did much toward reaching a better understanding between city officials and city and county health officers.

Venereal Disease Funds Appropriated

The Joint House and Senate Committee has recommended an appropriation of \$6,200,000 for the control of venereal disease for the next fiscal year. The committee has suggested that more emphasis be placed on the control of gonorrhea and that a certain portion of the money be earmarked for the control of syphilis and gonorrhea in areas adjacent to military camps.

Dr. Stricker Returns from the East

Dr. Frederick D. Stricker, State Health Officer, recently returned from Washington, D. C., where he attended a meeting of the State and Territorial Health Officers and the State and Provincial Health Authorities of North America. On his trip he visited the state health departments of Florida, Louisiana and Arizona.

Merit System Council Appointed

The State Board of Health recently appointed Drs. Raymond Watkins, and L. Howard Smith, Miss Elnora Thompson, Mrs. William Kletzer, and Mr. Walter W. R. May to act as a Merit System Council. Their function will be that of administering a merit system which has been established to comply with Federal regulations.

Portland Cited to Appear Before State Sanitary Authority

On May 7 the Oregon State Sanitary Authority issued a citation to the City of Portland to appear before the Authority on June 14 and show cause why the city should not abate the nuisance created by the discharge of untreated sewage into the waters of the Willamette river and Columbia slough.

WASHINGTON STATE MEDICAL ASSOCIATION



FIFTY-FIRST ANNUAL MEETING, TACOMA, AUG. 26-28

SPEAKERS' BUREAU

It will be remembered that the Speakers' Bureau was established by the State Association in March of this year as part of a program for extension of postgraduate medical education by our own members. The list of speakers and their subjects have been published and are available for engagements. Six more physicians have been added to the roster, making a total of eighty-eight from all parts of the state, according to an announcement given out by the state association recently.

The six new names are Frederick M. Lash, Western State Custodial School, Buckley, who speaks on "Mental Deficiency"; Clarence L. Lyon of Spokane on "Pediatrics"; John Kay Martin of Seattle listed on general medical subjects; Carl P. Wagoner of Seattle, whose subject is "Allergy"; Harry G. Plut of Port Townsend who recently spent two months at the Cook County Hospital in Chicago. He lists his subjects as "Clinical Diagnosis of the Acute Abdomen" and "Surgical Treatment of Chronic Peptic Ulcers"; and Walter Cameron of Tacoma who speaks on subjects pertaining to the eyes.

Speakers who have already appeared before county societies include Jay Durand and Frank Douglass at Yakima March 11; Charles P. Larson and Ross D. Wright at Yakima May 13; Richard J. Bailey at Ellensburg March 18; George D. Capaccio at Port Angeles April 11; Roger Anderson and R. L. King at Ellensburg May 27.

A report on the formation of the Speakers' Bureau and the proposed program and outline for postgraduate medical education in the state, prepared by A. B. Hepler, chairman of the state association committee, will be submitted at the fourth annual meeting of the Associated State Postgraduate Committees in New York City during the American Medical Association meeting.

CARD INFORMATION

So that the physicians of the state through their state association may be better prepared for possible political emergencies in the future, particularly legislative matters, Washington State Medical Association recently asked the doctors to fill out certain cards sent to them and return them to the Central Office.

Approximately half of the members of the state association have responded, the Central Office reporting that out of 1508 cards mailed, 727 have been returned with the requested information. The cards seek to know from each physician the organizations to which he belongs, offices if any, held in such organizations, political affiliations or beliefs if any, and personal acquaintanceship with political office holders in legislative and otherwise.

The Central Office, in an appeal through the columns of NORTHWEST MEDICINE, urges the remaining 781 physicians who still hold the cards to fill them out and return them to the state office for their files.

Following is a list by counties of membership and cards still unreturned:

<i>County</i>	<i>Membership</i>	<i>Cards Out</i>
Chelan	31	10
Clallam	16	9
Clark	27	15
Cowlitz	21	10
Grays Harbor	21	11
Jefferson	3	
King	600	340
Kitsap	26	11
Kittitas	18	7
Klickitat	7	3
Lewis	30	18
Lincoln	20	10
Okanogan	12	6
Pacific	8	3
Pierce	169	91
Skagit	28	12
Snohomish	39	34
Spokane	196	93
Stevens	8	3
Thurston-Mason	28	11
Walla Walla	53	30
Whatcom	52	24
Whitman	23	9
Yakima	62	31

OFFICIALS TO BE ELECTED

So that the physicians of the state may be fully informed, the Legislative Committee of Washington State Medical Association has released for publication interesting data regarding public officials up for election this year. The committee calls attention to the fact that every state office will be open, three members of the supreme court must run for election, all judges throughout the state on superior courts must seek election and all vacancies created by death or resignation must be filled.

Following is a listing of public officials up for election, filing dates for candidates and other information:

National:

President of the United States.
Vice-President of the United States.

State:

United States Senator (1).
U. S. Congressmen (6).
Governor.
Lieutenant-Governor.
Secretary of State.
State Treasurer.
State Auditor.
Attorney General.
Superintendent of Public Instruction (non-partisan).
Commissioner of Public Lands.
State Insurance Commissioner.
Judges of the Supreme Court (3), (non-partisan).
State Senators (27 out of 46).
State Representatives (House), all, (99).

County:

Superior Court Judges (all in State).
County Office vacancies, if any, and unexpired terms.
All Democratic Precinct Committeemen (2800).
All Republican Precinct Committeemen (2800).

Issues:

State Initiatives (incomplete).
Filing Dates for public office: Opens July 12, closes August 10.

STATE DEPARTMENT OF HEALTH

Donald G. Evans, State Director of Health, resumed his duties as State Health Officer May 27. Dr. Evans has been on a leave of absence since last September in order to complete his work for a doctor's degree in public health.

Pierce County Medical Society held an excellent meeting at Tacoma May 27, when E. W. Rosenow of the Mayo Clinic discussed his recently completed work on poliomyelitis. His efforts may give physicians another weapon in fighting this dread disease. Dr. Rosenow's talk was timely since Tacoma and Pierce county are now in the midst of a polio outbreak.

The last epidemic prevalence of poliomyelitis in this state occurred in 1934. There is some indication that we may again expect an increased prevalence during the present summer. The incidence of sporadic cases was unusually low during last winter, and until the week ending May 11. Seven cases were reported from Pierce county and Tacoma the week ending May 18. In the first three days of the succeeding week eight more cases were reported from the same area, these showing some indication of radial spread. Cases were predominantly bulbar in type, and four of the fifteen cases have already resulted in death. Two more have respiratory paralysis and are being treated in artificial respirators.

It has been shown by past studies that during a poliomyelitis epidemic nonparalytic probably outnumber paralytic cases. The nonparalytic cases, while not important from the disability standpoint, are fully as important from the control standpoint as the paralytic. It is essential, therefore, that physicians be alert for early poliomyelitic symptoms and that they make immediate reports of these to their local health departments in order that control measures may be instituted. By such action it may be possible to reduce considerably the extent of the epidemic, should it occur.

The most frequent early symptoms in the Tacoma cases have been as follows: low or moderate fever, irritability, headache, sore throat, nausea and vomiting, neck rigidity and backache. Spinal fluid examinations in the presence of such symptoms will help greatly in confirming the diagnosis.

The Division of Vital Statistics has set up a W. P. A. project for reindexing the state vital statistics records. The project will employ fifty people and will continue for a year.

Mr. Max S. Campbell, Assistant Public Health Engineer, read a paper at the Pacific Northwest Section of the American Water Works Association Convention which met in Portland. His paper dealt with the outbreak of gastroenteritis in Olympia, the solution of which involved some painstaking public health engineering investigation. Mr. Campbell's presentation of the problem and its solution received much favorable comment.

The sixth annual meeting of Washington State Public Health Association at Port Angeles this year, according to Roy M. Harris, secretary, was a huge success. The attendance was one hundred thirty-five.

The Division of Maternal and Child Hygiene announces that three of its five incubators for premature babies have been definitely assigned. Institutions receiving them are: Snohomish County Hospital, Cowlitz County Hospital and

Clark County Hospital. It is believed that these incubators will contribute toward reducing the state's infant mortality.

In accordance with the provisions of the new regulation of the State Board of Health, requiring that all teachers who have a positive skin test for tuberculosis submit a roentgenogram, the Division of Epidemiology and its examining board have been busy reviewing the roentgen films of prospective teachers. To date 825 roentgenograms have been reviewed, and of these forty-three were suggestive enough to indicate further investigation. In all cases sputum and sedimentation tests will be run to rule out the possibility of tuberculosis before the teacher is granted a health certificate.

As an interesting sidelight on the value of these tests, eight serious heart as well as six other miscellaneous conditions, which indicated the need of immediate attention, were revealed by the roentgen films. These conditions do not bar a teacher from practicing his profession, but knowledge of them will be of inestimable value from a personal standpoint. On a whole, this type of examination, a skin test followed by a chest roentgenogram where indicated, being of a specific nature, is considered by most teachers as a vast improvement over the type which was previously used.

SOCIETY MEETINGS

COWLITZ COUNTY MEDICAL SOCIETY

Regular meeting of Cowlitz County Medical Society was held at Hotel Monticello in Longview, Wednesday, May 15. Paul G. Flothow of Seattle gave a most interesting paper on "Surgical Lesions of the Spine Causing Low Back Pain." Thomas Blake, also of Seattle, talked on "Radiological Aspects of Low Back Pain." Both speakers illustrated their papers with slides and roentgen films and both discussed the many hidden lesions that have heretofore been overlooked in a large number of these patients. The Society will have no further regular sessions until the second Wednesday of September.

Auxiliary to Cowlitz County Medical Society met at the same time at Hotel Monticello, Mrs. J. W. Henderson and Mrs. P. H. Henderson acting as hostesses. Mrs. Moray Girling read the story by Irving S. Cobb, "Speaking of Operations." Mrs. H. D. Fritz and Mrs. J. F. Christensen were elected delegates to the annual meeting in Tacoma.

KING COUNTY MEDICAL SOCIETY

King County Medical Society held a meeting May 6 in Medical-Dental Building, Seattle. President M. S. Jared announced a meeting of the American Academy of Pediatrics, Region IV, to be held at Olympic Hotel, May 31 and June 1. Dr. Alfred A. Strauss of Chicago presented a paper on "Ileostomy and its Use in Surgery of the Colon."

The second monthly meeting was held May 20. Wilbur E. Watson was elected to membership. President Jared announced a special meeting of the society May 28, at which time Dr. E. C. Rosenow of the Mayo Foundation will deliver an address on "Focal Infections."

Robert H. Stewart read a paper on "Vaginitis." He described development of the vagina from three types of cells, with characteristics of each. He discussed trichomonas vaginalis, with description of its modern treatment. Various conditions of vaginitis were discussed. Glenn N. Rotton read a paper on "Dysgerminoma of Ovary," reporting a

unilateral case of this condition. He discussed the origin of this tumor, with its development, giving their characteristics and their most common occurrence. R. Philip Smith read a paper on "Occipitoposterior; Incidence, Etiology and Management." Recognition and treatment of this condition were described, showing that both fetal and maternal mortality has decreased in recent years. Many interesting statistics were presented.

LINCOLN COUNTY MEDICAL SOCIETY

Meeting of Lincoln County Medical Society was held at Harrington, April 14. Election of officers resulted in naming of L. F. Wagner of Harrington, president; G. H. Howard of Sprague, vice-president; and John Anderson of Almira, secretary.

SKAGIT COUNTY MEDICAL SOCIETY

The April meeting of Skagit County Medical Society was held at Anacortes April 22. Following a dinner, a business session of the society was held, while wives of the members were entertained at the home of Mrs. Austin Shaw.

SPOKANE COUNTY MEDICAL SOCIETY

Regular annual meeting of Spokane County Medical Society was held May 9 at the Spokane Country Club at 6:30 p.m. This was a dinner meeting, and was given over to election of officers for the coming year. Arthur Lien, the outgoing president, presided.

A very satisfactory year for the Library Corporation was outlined by Donald Palmer.

The following members of Spokane County Medical Society were elected to serve for the year: president-elect, George A. Anderson; secretary, R. G. Boyd; treasurer, W. H. Tousey; Board of Censors, L. S. Gilpatrick; Board of Trustees, A. E. Lien and F. L. Meeske; Delegates: J. M. Nelson, A. O. Adams, R. H. Southcombe, and R. J. Sprowl; Alternates, L. S. Gilpatrick, R. T. Flaherty, C. W. Countryman, and F. R. Patton.

WALLA WALLA VALLEY MEDICAL SOCIETY

Annual meeting of Walla Walla Valley Medical Society was held at the Marcus Whitman Hotel in Walla Walla Thursday, May 9. Election of officers resulted in the following: James T. Rooks, Walla Walla, president; W. V. Frick, Dayton, vice-president; J. P. Kahler, secretary-treasurer.

Guest speaker, Alfred O. Adams of Spokane, discussed "Vitallium for Internal Fixation of Fractures." The paper was illustrated by means of motion pictures.

YAKIMA COUNTY MEDICAL SOCIETY

Yakima County Medical Society held its regular meeting at the Commercial Hotel in Yakima May 13. Ross D. Wright of Tacoma read a paper on "Proctologic Surgery" and Chas. P. Larson, also of Tacoma, discussed some of the newer knowledge of Vitamin K. G. W. Cornett and D. F. Bice were named delegates to the annual state meeting.

MEDICAL NOTES

HOSPITAL ASSOCIATION MEETING. Washington State Hospital Association held its annual meeting at the Davenport Hotel, Spokane, May 17-18. Mr. A. L. Howarth of Deaconess Hospital, Wenatchee, assumed office as president, succeeding Burton A. Brown, Tacoma. Mr. Gordon W. Gilbert of St. Luke's Hospital, Spokane, was named presi-

dent-elect. Miss Harriet Smith of King County Hospital, Seattle, was elected secretary-treasurer. The meeting was addressed by Harry Rhodhamel of Spokane, J. W. Henderson of Longview, and others. Discussions were held on "Legislation and Public Relations," "Hospital Service Plans" and "Safety in the Hospital." At the banquet the members were addressed by Dr. Ralph Tieje, president of Eastern Washington College.

M. T. OLINGER, assistant superintendent of King County Hospital at Seattle, has resigned and will be associated with Drs. John and Ray Schutt of Bremerton.

SPOKANE SURGICAL SOCIETY MEETING. Annual meeting of Spokane Surgical Society was held at the Davenport Hotel on April 27. Guest speaker was Verne C. Hunt, Clinical Professor of Surgery at University of Southern California. After discussing cases presented by members of the Society, Dr. Hunt spoke on "Obstructive Jaundice and its Surgical Consideration." At the Annual Banquet Dr. Hunt read a paper on "Status of Partial Gastrectomy in Duodenal Ulcer." James G. Matthews was installed as president, succeeding John H. O'Shea.

PUBLIC HEALTH ASSOCIATION MEETS. Annual session of Washington State Public Health Association was held at Lee Hotel, Port Angeles, May 17-18. Public health officers and others interested in public health work in all sections of the state were present. Guest speaker at the Annual banquet held Friday evening, May 17, was W. B. Penney of Tacoma, president of Washington State Medical Association.

MEDICO-LEGAL BANQUET. The annual dinner meeting of the medical and legal professions of Seattle was held at New Washington Hotel April 29. Entertainment was provided by a skit written by Frank Clancey, satirizing the attitude of the present government toward the medical profession.

WESTERN HOSPITAL ASSOCIATION MEETING. Annual meeting of Western Hospital Association was held in Los Angeles early in May. Some 2500 were registered for the session, theme of which was hospital service. Clarence J. Cummings of Tacoma General Hospital was elected President of the Association.

MEETING OF LABOR AND INDUSTRIES DEPARTMENT. W. E. Steele, chief medical advisor for the Department of Labor and Industries, conducted a meeting at Grays Harbor April 23, in order to explain policies of the Department to all physicians of the area. Dinner was provided by the State Department at the Hotel Morck, Aberdeen.

COUNTY HOSPITAL DEDICATED. The new Kittitas County Hospital was dedicated May 14 at a banquet at Ellensburg with Governor Clarence Martin as principal speaker. The hospital has been under construction since last October. It houses forty-five beds and is thoroughly modern in design and construction. It increased three-fold the number of beds available for county patients.

HOSPITAL ARCHITECTS CHOSEN. Architects have been chosen to prepare plans and specifications for construction of a new wing for Pierce County Hospital at Tacoma.

HOSPITAL STAFF ELECTS. Annual meeting of the staff of Providence Hospital, Seattle, was held May 7 at a dinner at the hospital. Harry J. Friedman was named president of the staff. H. T. Buckner was reelected vice-president and A. L. Balle was reelected secretary-treasurer.

BRYAN KING AGAIN HONORED. At the Annual Meeting of the American Association for the Study of Goiter at Rochester, Minn., April 15-17, the Van Meter prize was awarded

Brien T. King of Seattle for his paper on "A New and Functional Restoring Operation for Bilateral Abductor Cord Paralysis." This is the second award to Dr. King for his brilliant contribution to surgery.

A SOUND FILM has been prepared on "The Pregnant Mare Serum and Its Effect on Ovulation," by S. J. Siegler. This film is sponsored by the Upjohn Company, one of the pharmaceutical houses which has developed the use of extracts of pregnant mare's serum. The film is to be shown at the Medical-Dental Auditorium in Seattle June 17 at 8:15 p.m.

LOCATIONS. William Butts of Spokane moved to Palouse for practice. He received his medical education at Rush and served his internship at University Hospital, Iowa City, Iowa. F. G. LeFor, formerly of Goldendale, has moved to Yakima for practice. He has recently completed thirteen months postgraduate work at Harvard Medical School. Leon F. Pollack of Spokane has opened offices in Rosalia for practice. Charles D. Kimball, of the Mason Clinic, 1935-1937, has returned to Seattle after nearly three years postgraduate study at Chicago Lying-in Hospital and Mayo Foundation, where he was a fellow in gynecology. He will specialize in obstetrics and gynecology.

OBITUARIES

DR. E. WELDON YOUNG of Seattle, Washington, died of hypertensive cardiovascular disease on May 9 at the age of 71. He was born in Koniska, Minnesota, and received his education at the University of Minnesota College of Homeopathic Medicine and Surgery, graduating in 1889. Immediately after graduation he came to Seattle, where he had practiced for fifty-one years. He was long active in community affairs and was a supporter of many significant movements. At the time of his death, he was president of the Arboretum Foundation, president of the English Speaking Union, Director of the Gorgas Memorial Institute, regional governor of American College of Surgeons, Chief of Staff at the Maynard Hospital and trustee of the Seattle Chamber of Commerce.

DR. ARNOLD W. HACKFIELD of Seattle, Washington, died suddenly while en route home from Texas April 26. He was 41 years of age. He received his medical education at University of Michigan, graduating in 1927 and took his internship in Letterman General Hospital in San Francisco. Following this, he studied neurology and psychiatry, spending time in clinics in Boston, Philadelphia, Berlin and Zurich. He established his practice in Seattle in 1934.

DR. ALLEN CHAPMAN BROWN of Stanwood, Washington, died suddenly May 18 at the age of 76. He received his medical education at Missouri Medical College at St. Louis, graduating in 1895. He came to Stanwood in 1912 and has been in practice since that time.

WOMAN'S AUXILIARY

It would be wonderful if every doctor's wife could combine a trip to the New York World's Fair with the thrill of attending a National Auxiliary Convention. However, I do want to urge each of you to come to the beautiful shores of Puget Sound this summer, for the State Auxiliary Convention which will be held in Tacoma the latter part of August. Attendance at such conventions not only gives one greater appreciation of auxiliary work, and affords a

delightful opportunity of making closer friendships from among our splendid group of auxiliary women, but it also sounds the keynote for our own local county auxiliary activities for the coming year, and we return to our work with renewed interest and inspiration.

Pierce County auxiliary has had unusual success in its "open meeting" programs this year. Several of their meetings last fall and this spring have been very well attended by the general public and by those representatives of women's clubs who have been especially invited to attend. Miss Martha Dresslar, associate professor in the School of Home Economics at the University of Washington, gave an illustrated talk on "Food and Nutrition" at the open meeting in February. Miss Grace Coffman, supervisor of the Public Health Nursing Association, was the project speaker for the afternoon. In March, Pierce County members heard Dr. John Gullikson speak on "Non-Pulmonary Tuberculosis." Project speaker was Dr. Frederick M. Lash, superintendent of Washington State Custodial School at Buckley. Another open meeting was sponsored by the Auxiliary on the evening of April 11 at Weyerhaeuser Hall in Tacoma. A large attendance demonstrated the great interest of the public in such forums. Under Dr. Horace J. Whitacre, chairman of the forum, a panel of Tacoma physicians discussed the subject, "Cancer." Yearly reports were given by all officers and Chairman at the May meeting and plans were discussed for the state convention to be held in Tacoma in August.

Mrs. J. B. Robertson, State Hygeia Chairman, has received word from the National Auxiliary that Washington State has won first prize of \$25 in the national Hygeia subscription contest. Prizes for high quotas went to Chelan and Clark Counties, with honorable mention to Cowlitz, King, Kitsap, Pierce, Snohomish, Walla Walla and Whatcom. Congratulations to those faithful workers who made this award possible.

Mrs. H. V. Larson of Poulsbo was elected President of Kitsap County Auxiliary at the May meeting, succeeding Mrs. Elmer J. Cornell. Mrs. Elbert Haddon gave a review of "Dr. Hudson's Secret Journal" by Lloyd C. Douglas, and following the business meeting a social hour was enjoyed.

Yakima County also elected new officers at the May meeting, with Mrs. Kay England to serve as president for the coming year. Past-presidents of the auxiliary were honored at the last dinner-meeting of the year, and following the business meeting Mrs. P. B. Bell, who has lived for five years on Malay peninsula, showed motion pictures and spoke on the life in Singapore and Java.

Members of the Woman's Auxiliary to Walla Walla Valley Medical Society met for the last time this year for dinner at Grand Hotel in Walla Walla. Mrs. E. L. Whitney presided over the short business session, and Mrs. W. V. Frick of Dayton, incoming president, announced her committees for the coming year. Later members and guests enjoyed an evening devoted to motion pictures of Alaska and a description of a recent trip there by Mrs. Ernest M. Tapp.

Mrs. Helen Dorman of Seattle, an auxiliary member as well as instructor in social service at the University of Washington and supervisor of field work in the Graduate School of Social Work, spoke on the subject "Social Work Today" at the March meeting of King County Auxiliary. For the past year King County programs have been built around the general theme of "Public Relations."

MARGARET C. TASHIAN

IDAHO STATE MEDICAL ASSOCIATION



FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPT 11-14

REPORT ON NATIONAL CONFERENCES

The National Conference on Medical Service, February 12-15, was devoted largely to discussions of group medical care and group hospitalization programs. An idea of the magnitude of prepaid hospital service in the eastern part of the country can be gained from the fact that in New York 1,160,000 people belong, and sixty hospitals are participating. In Detroit over 80,000 subscribers are getting full coverage medical service with limitations. Obstetrics are taken after twelve months; diagnosis only is provided for malignancies, mental cases and venereal diseases. Forty-two thousand doctors are cooperating in providing this service and fees are averaging as follows: appendectomy, \$75; hysterectomy, \$125; office call, \$2; house call, \$3.

Some of the district societies in Idaho are experiencing the same trouble as other societies over the country in trying to find out the position of the government in regard to the Farm Security Program.

The Annual Congress on Medical Education and Licensure forecasts some trends in medical education. The departments in most medical schools that will in the future show the most growth are medicine, pharmacology, dermatology and physical therapy. It was predicted that in ten years hospitals would be required to have the services of a pharmacologist to remain on the approved list.

At the meeting of the Federation of State Medical Boards much time was spent in discussing the problem of the refugee physician. Steps are being taken to look forward to the time when we will have reciprocity with South American countries.

F. B. JEPSEN,

Representative of Idaho State Medical Association.

SOCIETY MEETINGS

SOUTH SIDE MEDICAL SOCIETY

Regular meeting of the South Side Medical Society was held in Twin Falls May 17 at the Rogerson Hotel. F. M. Cole of Caldwell, president of the Idaho State Medical Association, discussed the value of medical organization and the desirability and necessity of better cooperation.

C. W. Pond of Pocatello read a paper on "Deep Infections of the Neck." This paper was illustrated by slides. F. B. Jeppesen of Boise discussed "Congenital and Developmental Anomalies of the Urinary Tract." The paper was illustrated by roentgenograms.

Delegates to the Annual meeting of the State Association to be held at Sun Valley Sept. 11-14 were selected as follows: W. F. Passer, J. W. Wurster, G. C. Halley, E. H. Elmore, V. H. Anderson. Alternates: J. W. Marshal, C. B. Baimer, C. H. Terhune, R. C. Matson and W. E. McBratney.

The Woman's Auxiliary to South Side Medical Society met at the same time at the Park Hotel. Mrs. F. M. Cole of Caldwell and Mrs. C. W. Pond of Pocatello were guests. Officers elected were as follows: Mrs. A. A. Boston, Twin

Falls, president; Mrs. G. C. Halley, Twin Falls, vice-president; and Mrs. J. W. Creed, Filer, secretary-treasurer.

NORTH IDAHO MEDICAL SOCIETY

April meeting of North Idaho Medical Society was held at the Lewis Clarke Hotel, Lewiston, April 19. Clinics and discussions were given by H. C. Stearns, Joyle Dahl and Morris Bridgeman, University of Oregon. This was one of the meetings sponsored by the State Department of Public Health.

MEDICAL NOTES

PUBLIC HEALTH SESSIONS. A number of meetings throughout Idaho were sponsored by the Idaho State Department of Public Health and Idaho State Medical Association in April. Meetings were addressed by Howard C. Stearnes, gynecologist; Morris L. Bridgeman, pediatrician; and Joyle Dahl, dermatologist, all of the University of Oregon. Meetings were held at Idaho Falls, April 15, Twin Falls April 16, Boise April 17, Lewiston April 19, and Coeur d'Alene on April 20.

PUBLIC HEALTH WORK AIDED. Physicians of Moscow and vicinity have offered to give spotted fever vaccine to all those unable to pay for this protection. This move is in cooperation with efforts of Max McQueen, director of North Idaho Health Unit, to immunize all in the area against Rocky Mountain Spotted Fever.

SILICOSIS INVESTIGATION UNDER WAY. A mobile roentgen unit, built by the State Industrial Accident Board and State Division of Public Health and being used under the direction of the Bureau of Industrial Hygiene, is making a tour of the State. All industrial workers exposed to silica dust will be examined and all data recorded. The information obtained is for statistical purposes only and it is not expected that the unit will be used to replace any existing medical service.

LOCATIONS AVAILABLE. Several localities in Idaho are without services of a physician. These offer good possibilities for resident physicians and will bear investigation. Inquiries should be addressed to Dr. J. N. Davis, secretary of the Idaho State Medical Association at Twin Falls, Idaho.

There is also an opening for a physician in public health work in Idaho. This presents considerable opportunity. Anyone interested in this position should get in touch with Dr. E. L. Berry, director of Public Health, State of Idaho, Boise.

OBITUARIES

DR. HOWARD M. HOLVERSON of Boise, Idaho, died May 20, age 67. He was born at Palmyra, Wisconsin and received his medical education at Hahnemann Medical College and Hospital at Chicago, graduating in 1901. After a period of practice at Garretson, South Dakota, he moved to Boise, where he practiced for thirty-six years.

CORRESPONDENCE

NEUROPSYCHIATRIC SOCIETIES

Portland, Ore. May 15, 1940

To the Editor:

In the May issue of *NORTHWEST MEDICINE*, page 159, in the course of your favorable notice of North Pacific Society of Neurology and Psychiatry, you state that "none of this character exists in the Pacific Northwest." Organization of our Oregon Neuropsychiatric Society preceded that of North Pacific Society by over a year, and at the time of initial meeting of the latter we had all but finished our second year in Portland.

Our membership is drawn mainly from the neighborhood of Portland but includes Salem and Eugene members. We have been meeting five times a year, and many of our members are also associated with the North Pacific Society. Wendell Hutchens was our first secretary, and E. Murray Burns will complete his year as secretary the end of this month.

JAMES H. HUDDLESON.

BOOK REVIEWS

INJURIES OF THE SKULL, BRAIN AND SPINAL CORD. Neuropsychiatric, Surgical and Medico-Legal Aspects. Edited by Samuel Brock, New York University. 632 pp., \$7. The Williams & Wilkins Co., Baltimore, 1940.

This collection of monographs is a valuable addition to the literature on the subject of injuries to skull, brain and spinal cord. The collaborators and their subjects have been selected with the intention of giving the reader a comprehensive coverage of the subject, whether he is interested from the legal, insurance, industrial, medical or surgical side. Under twenty-two chapter headings the experience and knowledge of outstanding specialists in fields of neurology, psychiatry, radiology, forensic medicine and neurosurgery are presented in readable but rather sparsely illustrated forms. The term injuries includes conditions produced by electrocutions, caisson disease, birth injury, as well as trauma, both acute and remote. Since each monograph is complete in itself, there is much overlapping and repetition, when the book is considered as a whole. The author considers this a necessary feature in order to preserve the view point of each collaborator. The last chapter of fifty-four pages is devoted to medicolegal aspects of these injuries, discussing liability, total and partial disability and testimony. Each monograph is complete with its bibliography and there is a good general index.

S. N. BERENS

DIVERTICULA AND DIVERTICULITIS OF THE INTESTINE. Their Pathology, Diagnosis and Treatment., By Harold C. Edwards, M.S. (Lond.), F.R.C.S. (Eng.). Surgeon and Lecturer in Surgery to Kings College Hospital, London, etc. With 223 Illustrations, Many in Color. 335 pp. \$8. The Williams & Wilkins Co., Baltimore, 1939.

This book is a classic on diverticula of the intestines both large and small. The author writes with the authority that comes with complete knowledge of his subject. There are sections on congenital diverticula, diverticula of the duodenum, jejunum and colon. The tremendous experience of the author makes particularly interesting his opinions on diagnosis, both clinical and laboratory, complications, indications for medical or surgical treatment and surgical

anatomy. The appendix contains a chapter on radiologic technic, over ten pages of bibliography and a splendid index. Illustrations are numerous and impressive. This book is interesting to the casual reader, and valuable to the doctor who has a problem in the diagnosis or treatment of diverticula.

DAVID METHENY.

A SYMPOSIUM ON THE BLOOD and Blood-Forming Organs. 264 pp., \$3.50. The University of Wisconsin Press, Madison, 1939.

This compact monograph, composed of papers read at the Institute on Blood, held at the University of Wisconsin, by fifteen contributors from Medical School faculties or research laboratories, is a summary of all factual data and hematologic research to date. Anemias, leukemias, polycythemias, mononucleosis, Hodgkins, marrow cultures, blood coagulation, each is dealt with by a master in a concise, clear and interesting manner.

In hypochromic anemias inorganic iron in the form of ferrous salts is the treatment of choice; it is given in large doses by mouth. Parenteral iron, or combinations of iron with copper, hydrochloric acid, liver extract or other various substances are not necessary.

In pernicious anemia the fundamental defect is attributed to the fundus of the stomach. Extracts of the ileum are highly effective in anemia. The normal process is described as the extrinsic factor being supplied by food, the intrinsic factor being produced in the pyloric region, the interaction taking place in the intestine, where the ultimate principle is absorbed, chiefly from the ileum, and is then stored in the liver. This text is not only interesting reading, but extremely practical in application.

B. T. FITZMAURICE

HANDBOOK OF ORTHOPAEDIC SURGERY. By Alfred Rives Shands, Jr., B.A., M.D., Medical director of the Nemours Foundation, Wilmington, Delaware, etc., In Collaboration with Richard Beverly Raney, B.A., M.D., Associate in Orthopedic surgery, Duke University School of Medicine. 154 Illustrations. 567 pp., \$4.25. The C. V. Mosby Co., St. Louis, 1940.

This handbook is meant mostly for the general practitioner and medical student but is also useful to one specializing in this field. It gives fundamental principles in a clear and concise manner. It consists of twenty-four chapters and covers the general field of orthopedic surgery with exceptions of fresh fractures, plaster technic and orthopedic apparatus. It also omits certain forms of treatment which in the past have been widely used but which are not generally accepted today.

There is a new detailed chapter on chronic arthritis which has been prepared from the report by the American Committee for Study and Control of Rheumatism. A new and excellent chapter on low back pains constitutes formidable orthopedic problems. The outstanding feature of the book is its brief but comprehensive treatment of the field of orthopedic surgery.

G. W. FREEMAN

ESSENTIALS OF THE DIAGNOSTIC EXAMINATION. By John B. Youmans, B.A., M.S., M.D., Associate Professor of Medicine and Director of Postgraduate Instruction, Vanderbilt University Medical School. 417 pp., \$3.00. The Commonwealth Fund, New York, 1940.

The purpose of this book is said to be the assembling in a single volume the minimum of diagnostic methods of procedures needed for the general practice of medicine and available to all physicians. If properly followed, it will help

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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ILLUSTRATED ELECTROCARDIOGRAPHY. By Julius Burstein, A.B., M.D. Associate Electrocardiographer and Chief of the Cardiac Clinic, Morrisania City Hospital, New York, etc. Second Edition. 292 pp. \$5. D. Appleton-Century Co., Inc. New York, 1940.

This edition includes almost everything in electrocardiography from the simplest fundamentals to the most complex precordial leads. It also contains the full report of the American Heart Association on its "Standardization of Precordial Leads" and the supplementary report of "Multiple Precordial Leads." The plates are of excellent quality, easy to read, and with concise explanatory notes, with only sufficient clinical data to establish the value of the graph. The latest nomenclature has been used throughout. The portion dealing with chest leads is short and contains so many tracings of the precordial leads in various positions that it must be a little difficult for the uninitiated to comprehend. However, as a reference to aid one in the interpretation of either common or unusual electrocardiograms this book should be very helpful.

A. G. FRIEND.

MANUAL OF UROLOGY. By R. M. Le Comte, M.D., F.A.C.S. Professor of Urology, Georgetown University Medical Department, etc. Second Edition. 295 pp. \$4. The Williams & Wilkins Co., Baltimore, 1939.

This volume sets forth briefly the fundamentals of urology for the student approaching the subject. The edition is intended to give the beginner a ground work on which to build his later advanced studies in urology. This second edition contains sections on neuromuscular physiology, pathology of the bladder and a chapter on impotence and sterility. For one needing a brief working text, it adequately fulfills the purpose for which it is intended.

F. J. CLANCY.

THE HYPOTHALMUS and Central Levels of Autonomic Function. Vol. XX, Research Publications Association for Research in Nervous and Mental Disease. With 319 Illustrations and 35 Labels. 980 pp. \$10. The Williams & Wilkins Co., Baltimore, 1940.

If any part of the body can be called the seat of the soul, it is the hypothalamus. Here in an area not much larger than a cubic centimeter lie the master centers for nervous control of cardiovascular functions, temperature, pulmotor activity, water metabolism, carbohydrate metabolism, fat metabolism, endocrine secretions, gastrointestinal activity, bladder function and sleep. Not only does the hypothalamus control these lower autonomic activities but it also exerts its influence upward to control cortical activity. In fact, the level of consciousness is probably controlled by a sleep center in the hypothalamus.

There has long been conflict and lack of unanimity in the terminology of hypothalamic structures. One of the most valuable contributions of this volume is its introduction of a uniform terminology. The volume is divided into three parts, anatomy, physiology and clinical research on the hypothalamus. There are forty-two contributions of recognized authority and 319 highgrade illustrations. Some interesting observations are that lesions of the hypothalamus produce gastrointestinal hemorrhage and ulceration in about one-third of the cases. There is no true sleep center but rather a wake center, depression of which produces sleep.

F. LEMERE.

A TEXTBOOK OF PHYSIOLOGY. By William D. Zoethout, Ph.D., Professor of Physiology in the Chicago College of Dental Surgery, Loyola University, and W. W. Tuttle, Ph.D., Professor of Physiology, College of Medicine, State University of Iowa. Seventh Edition. With 302 Illustrations. 743 pp., \$4.50. The C. V. Mosby Company, St. Louis, 1940.

Since physiology is the basis on which the study of medicine is founded, every student and physician must be grounded in its principles. A volume which has appeared in seven editions in twenty-four years will be recognized as a standard authority. The author states that this work is intended for those having a limited length of time for acquisition of a knowledge of the subject. Accordingly, elaborate discussions are avoided, but basic principles are sufficiently discussed. The thirty chapters of the book cover the physiology of the tissues and organs of the body, followed by chapters on foods, digestion, metabolism, hormones and other physiologic factors. It is impossible briefly to attempt a review of such a volume. Suffice it to say, that one seeking knowledge on human physiology will find abundant information in this book.

MAMMALIAN GENETICS. By William E. Castle, Professor Emeritus of Genetics, Harvard University, etc. 169 pp., \$2.00. Harvard University Press, Cambridge, 1940.

This summary of knowledge concerning genetics of mammals, while applied particularly to animals, also includes facts concerning humans. The discussion of mendelian inheritance reviews many facts which one is likely to forget. Photographs illustrating breeding results in guinea pigs and rabbits are interesting and informative. Facts pertaining to hybridization, sex determination, maternal inheritance and many other genetic problems can be profitably reviewed by anyone interested in this subject with its manifold manifestations.

INTRODUCTION TO MEDICINE. By Don C. Sutton, M.S., M.D., Associate Professor of Medicine, Northwestern University School of Medicine, etc. With 144 Text Illustrations and 14 Color Plates. 642 pp., \$3.25. The C. V. Mosby Company, St. Louis, 1940.

This text is intended primarily for the nurse and student. Essential features are discussed in separate chapters, at the end of each being a series of questions, the answering of which covers the substance of the chapter. Part I offers a quick survey of the fundamental background of medicine, while Part II gives a description of disease entities, with symptoms, diagnosis and treatment given with a minimum of detail. Diseases encountered in ordinary practice are included in this volume which will give one in brief space the main facts pertaining to medical ailments.

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EDITORIALS

THE GREATEST A.M.A. MEETING

If a maximum attendance constitutes greatness of a medical meeting, that of the American Medical Association at New York last month is entitled to superlative designation. It is reported there were 12,864 registrants, exceeding by more than 2500 the largest number ever present at an annual meeting. Since this meeting was held in the nation's largest city, including the greatest number of practicing physicians, this may offer some explanation of the huge attendance. It is also to be noted that during recent years there has been an increasing attendance at the annual meetings of our national organization. Anyone who has attended one of these great meetings always has an urge to do so again. None but the largest cities with abundant hotel accommodations and adequate supply of assembly halls, can contemplate serving as host to this national association. The Pacific Northwest was well represented with twenty-one registrants from Oregon, thirty-four from Washington and eight from Idaho.

The manifold scientific attractions of this meeting were overwhelming in their abundance. Four floors of the Grand Central Palace housed the largest technical and scientific exhibits which have ever been prepared for a medical gathering. During recent years these exhibits have constantly increased in number and interest. So manifold are they, and of such practical demonstrations, that one is tempted to confine his time to inspecting them rather than listening to scientific papers which can later be read in leisure hours. An attempt to describe these at this writing would be futile. Suffice it to say they embraced all fields of medicine, surgery and specialties, offering visible demonstrations replete with instructions and practical suggestions.

The program of scientific papers covered such a comprehensive field of subjects that it would be vain for one to attempt comments on them as a whole. Mention might be made of a few of special interest. Much attention was given and many papers read in the field of chemotherapy. Perhaps no

This journal goes to press the first day of the month. Material for publication should be received by the 25th of the preceding month.



Reprints will be furnished by the printer according to the schedule of prices which accompanies the galley proofs submitted to the author. The order for reprints should accompany the returned galley proofs. The printer holds the type until the first of the following month.



Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

subject has received such universal interest from the medical profession during the past year as the sulfonamide derivatives. They have been employed for the relief of so many and varied forms of septic infections that they have undoubtedly been utilized at times in excess and without careful discrimination. While disturbing toxic effects have been widely reported from the administration of sulfanilamide, emphasis was placed on the less serious sequelae following the use of sulfapyridine, and particularly of sulfathiazol which seems to be the derivative of choice at the present time. Reports of its superiority were presented in the treatment of pneumonia, staphylococcic, as well as gonorrheal infections. An exhibit creating much interest and discussion was that of Miley of Philadelphia on ultraviolet irradiations of autotransfused blood in treatment of acute pyogenic infections, in association with investigations in connection with work previously conducted on this subject by Knott and Hancock of Seattle. While striking clinical results were presented, skepticism was expressed, due to the absence of experimental confirmation. It was believed this method may possess merit, subject to future scientific confirmation.

The problem of hypertension has received renewed study after discovery that clamping the renal artery produces "essential hypertension." Interest centered about the hemodynamic changes in the kidney after injection of renin and angiotonin. It was explained in detail how the injection of these substances has caused reduction in hypertension both in man and the dog. This offers appeal for study and investigation which may be productive of definite results. Numerous other important subjects could be discussed if time and space permitted.

In the House of Delegates the greatest interest centered about the subject of "Medical Preparedness." So important has this matter developed that future issues of *The Journal of the American Medical Association* will feature a special department covering its manifestations.

MEDICAL PREPAREDNESS

Declaration of war against France and England by Italy, the fall of Paris, resignation of Reynaud and his cabinet, the flight of millions of refugees, the disintegration of the military of France, call for preparation for any emergency by the President of the United States and the rapid movements by Congress, all these momentous events happening within a few hours of each other colored the thoughts and atmosphere of the American Medical

Association meeting held in New York. It seemed to many attending the national meeting either significant or coincident that the American Medical Association meeting was held in New York City in 1917, when the United States entered World War I, and again it returns to the big town on the eve of another world-wide catastrophe. As in the year 1917, the A.M.A. was up to it, standing ready to aid the nation in any emergency. Even though nations and systems were crashing with each newspaper headline, it was reassuring to watch the calm, machine-like functions of the national convention, moving with rapidity into the national emergency at the call of the government.

The program of the Surgeon-General of the United States, and ordered by the President for mobilization of the physicians of the nation through the offices of the American Medical Association under the Committee on Medical Preparedness, was received with a wholehearted spirit of cooperation.

"Mobilization of America's 145,000 physicians and surgeons for the national defense got under way with the appointment by Dr. Shoulders of a medical preparedness committee, whose task it will be to mobilize all of America's vast medical resources, the largest in any country in the world, into a nation-wide volunteer medical corps," declared the *New York Times* in a news story on June 14.

Irvin Abell of Louisville, past-president of the A.M.A. and one of the country's outstanding surgeons, was named chairman of the Preparedness Committee. Other members are Stanley H. Osborn of Hartford, Conn., Walter G. Phippen of Boston, Harvey B. Stone of Baltimore, James E. Paullin of Atlanta, Fred W. Rankin of Lexington, Ky., Roy W. Fouts of Omaha, Sam E. Thompson of Kerrville, Texas, Charles A. Dukes of Oakland, Calif. and John H. O'Shea of Spokane. Acting with this committee of ten are five ex-officio members: Nathan B. Van Etten of New York City, president of the A.M.A., Olin West, secretary of the A.M.A., Arthur W. Booth of Elmira, N.Y., and Austin A. Hayden of Chicago, chairman and secretary of the Board of Trustees and Morris Fishbein, editor of *The Journal of the American Medical Association*.

Of interest to physicians throughout the Pacific Northwest is the appointment of John H. O'Shea of Spokane as a member of the Committee on Medical Preparedness. Each committee member was selected to represent the preparedness plan in designated sections of the country. Dr. O'Shea will be the divisional head over four states and a territory: Montana, Idaho, Oregon, Washington and Alaska. Al-

though the details of the plan have not been announced, it is believed that Dr. O'Shea will ask each state association to appoint a physician to head his respective state.

Thomas C. Routley, General Secretary of Canadian Medical Association described to the A.M.A. House of Delegates the procedure and organization of the physicians of Canada in the present war.

Out of approximately 8,000 physicians in Canada 90 per cent offered their services to the government in response to a card questionnaire sent to them, Dr. Routley stated. The questionnaire was read before the House of Delegates by Dr. Abell. The questions on the card, which may be used in this country, read as follows:

1. Are you willing to give full-time service abroad?
2. Full-time service in Canada?
3. Full-time service in your locality?
4. Part-time service in your locality?

During coming months physicians of this Northwest region will receive communications from Dr. O'Shea pertaining to this movement. Hearty cooperation on part of the profession is anticipated and expected.

BEST PHARMACOPEIA IN THE WORLD

Many physicians do not realize the importance to the medical profession of the Pharmacopeia which establishes legal standards, under which the United States government enforces the purity of official drugs in interstate commerce. Comments have been published on the recent decennial U. S. Pharmacopeial Convention which are worthy of attention. For a long period new editions of this work have been published at ten-year intervals. Confidence in it has been somewhat diminished of late, owing to the claim that industrial interests have in recent years assumed too much importance at the periodical pharmacopeial conventions.

The convention held in Washington in May, attended by some five hundred representatives of medicine, pharmacy and related sciences, introduced a new quality into the deliberations with assurance of future authoritative results of supreme importance. In addition to the Board of Trustees, composed of two physicians and three pharmacists, a revision committee of fifty members was appointed, of which one-third are physicians and two-thirds pharmacists. The personnel includes representatives almost entirely from the Atlantic Coast, a few from the Middle West, while the Pacific Coast is represented by Carl L. A. Schmidt, Ph.D., of Berkeley, California, with Forest J.

Goodrich, Ph.D., of Seattle, dean of the College of Pharmacy of the University of Washington, and Henry A. Langenhan, Ph.D., connected with the same institution.

In preparing the proposed revision, among other principles it is announced there will be suitable and proportional representation for medicine, pharmacy, dentistry, veterinary medicine, governmental agencies and manufacturing pharmacy. Fundamental criteria will be established for admission of drugs and preparations to the Pharmacopeia. There will be revision and publication every five years, with interim supplements. It is stated there will hereafter be no difficulty in securing suitable representation in medicine and progressive pharmacy, with the exclusion of predatory interests. It is believed that the progressive reforms introduced by this pharmacopeial convention will result in production of the best pharmacopeia in the world. Physicians should have access to this volume, if they desire authoritative information concerning drugs which they prescribe in regular practice or for special use.

DO YOU READ YOUR JOURNAL?

Recently a member of the state association applied to the state office for information concerning the officials of a county society. He expressed the belief that publication of the names of the officials in the state journal would be desirable for the purpose of imparting information concerning the component societies. When he was informed that these data appeared in every issue of the journal, he questioned the veracity of the statement. His attention being called to page twenty in the advertising section, headed "Directory of County Medical Societies," he said that was the first time he had ever seen this published list, explaining that he never consulted the advertising section of the journal.

This incident offers an occasion for suggesting that advertising sections of a medical journal form a vital part of the publication. The reader may not be aware of the fact that he is passing up valuable information obtainable from regular advertisements which might offer him desirable assistance in his medical practice. In addition to advertising of medical preparations and various professional equipment, the advertising pages include information regarding county societies, hospitals and other matters which should interest every physician. The incident quoted above illustrates the applicability of these comments.

*The Pharmacopeial Convention of 1940, J. A. M. 114: 2116, May 25, 1940.

ORIGINAL ARTICLES**CONSIDERATION OF PROTAMINE INSULIN****MANAGEMENT OF THE SURGICAL DIABETIC AND
DIABETIC COMA*****IRA A. MANVILLE, M.D.****PORTLAND, ORE.**

No longer can the average physician in the practice of medicine disregard diabetes mellitus as a disease entity. The large number of actual and potential cases makes this impossible. Joslin is responsible for the statement that twenty-five per cent of the population of the United States are diabetic carriers, or that, in other words, 30,000,000 people are involved with this disease to some extent. The Metropolitan Life Insurance Company in January of this year reported that the death rate from diabetes in 1938 was 24.8 per 100,000 and in 1939, 27.5. Forty years ago, the death rate was 5.5. There is no indication as yet of any tendency of the rising death rate to level off. From these figures it will be seen that the general practitioner of medicine can not hope to avoid more or less frequent contacts with patients suffering with diabetes.

To the internist who wishes to specialize in this malady, unusual and interesting opportunities for application of highly specialized procedures in treatment of this disease are open. Newly acquired information in the field of endocrinology has implicated the anterior lobe of the hypophysis, the thyroid, the cortex and medulla of the adrenal and the liver as well as the islets of Langerhans in this disease. Special attributes of tissues such as the brain, heart, kidney, duodenal mucosa and muscles further complicate the problem.

As is usually true, in most of the physiologic reactions of the body, nature has provided at least two ways to accomplish the same objective. For example, the heart can be accelerated either by inhibiting the vagus or stimulating the sympathetic. In carbohydrate utilization, blood sugar may be increased by an excessive outflow of sugar from glycogen reserves or by a reduction in glycogen formation and in the use of sugar by the tissues. Usually a diagnosis of diabetes mellitus can be made, if the urine contains glucose and perhaps ketone bodies and if the fasting blood sugar is elevated. Many times a readjustment of the patient's diet along with perhaps small amounts of insulin is sufficient to restore the blood and urine chemistry to within normal limits.

It is now recognized, however, that chemical findings just cited are not always indicative of diabetes. One of the chief reasons for this deserves special mention at this time. It is that the preceding dietary history of the individual is very important in explaining the cause of an existing hyperglycemia and glycosuria. For example, an individual on a starvation regime, one on a high fat diet, or one suffering from some toxic or septic process will give a blood sugar time curve identical to that of a patient suffering with diabetes mellitus. It is not infrequent that a physician will have come to him a young woman, for example, who believes that she is overweight and for this reason has placed herself on a low calorie diet almost entirely devoid of sugar, starch and fat. If the foods eaten were truly representative of the mixture of nutrients her body is metabolizing, the situation would not be so bad. However, due to the fact that her caloric intake is below her energy requirements, she must add to the nutritive mixture represented by the food she eats a certain amount of fat from her own body reserves. Consequently, the metabolic mixture that her body is actually handling is high in fat.

She comes to the doctor, therefore, with a history of having lost twenty-five to thirty pounds in weight in a short period of time, of having developed headaches and feeling of listlessness, lassitude and perhaps nausea with occasional vomiting. The history of a marked loss in weight in a short period of time associated with headaches, lassitude, nausea and vomiting immediately suggests to the physician the question of acidosis. A test of the urine shows the presence of acetone bodies. The physician then feels that a glucose tolerance test is indicated. It is done and a diabetic blood sugar curve is obtained along with evidence of sugar in the urine. Unless the physician is wary, he is liable to make a diagnosis of diabetes and institute a regular antidiabetic regime. Restoration of an adequate amount of carbohydrate in the diet of this patient is sufficient to clear her urine of sugar and relieve the other symptoms of which she is complaining.

Before discovery of insulin, the treatment of diabetes depended entirely upon dietary adjustments. The availability of insulin has altered the importance of dietary procedures very little. Prior to insulin, the treatment was one of starvation with the caloric intake composed largely of protein and fat. Later the diet was adjusted with as much fat as could be included without the development of ketosis. Fat, therefore, occupied a very important place in the earlier diabetic diets. It still plays an important part, due chiefly to its high caloric value.

*Read before the Twenty-Eighth Annual Meeting of University of Oregon Medical School Alumni Association, Portland, Ore., May 3, 1940.

Protein was added because it was necessary to maintain nitrogen balance. It was not included in too large a quantity because of its stimulating effect on metabolism and also because of its ability to act as a source of sugar. Carbohydrate was added in accordance with the patient's tolerance. If the energy provided by such a diet met the energy requirements of the patient, a satisfactory adjustment would be made. If it did not, the patient perforce would be subsisting upon a starvation regime.

With the discovery of insulin, the old program was maintained with but little change for several years. Insulin simply made it possible to increase the energy intake to a level more compatible with the individual's requirement. During this period, most of the fatalities occurring were those caused by acidosis and coma. Eventually, it was discovered that an isocaloric substitution of fat by carbohydrate was possible without an increase in the amount of insulin. It was even stated that a reduction in the amount of fat to within 50 to 60 grams and an increase in carbohydrate to within 150 to 300 or even 400 grams could be accomplished with a surprisingly small increase in insulin or no increase at all. The protein remained constant at approximately one gram per kilogram of body weight.

After the advent of insulin, the cause of death among diabetics changed from acidosis and coma to arteriosclerosis, hypertension and the sequelae growing out of such conditions. The proponents of the so-called high carbohydrate-low fat diets in diabetes have substantial grounds upon which to base their claims of superior advantages. In the first place, such a dietary is more satisfactory to the patient and, therefore, enlists a more cordial and conscientious cooperation. In the second place, hypercholesterolemia is reduced. The urine is kept within normal limits of acidity. The alkaline reserve is better maintained and last and perhaps most important, the presence of more sugar in the diet serves the purpose of increasing the output of endogenous insulin and at the same time sensitizing the peripheral tissues to it.

Before proceeding to the special considerations involved in the care of coma and surgical complications made possible by the high carbohydrate diets, I would like to discuss briefly the development of insulin. The first insulin put on the market was an amorphous product which could not be prepared in crystalline form. When one unit per kilogram of this material is given subcutaneously to rabbits, the blood sugar reaches its lowest level in one and a half hours and does not return to the original level in five hours. It was necessary, there-

fore, to administer this material shortly before the ingestion of a meal and to repeat the injections at four to six hour intervals as may be necessary to keep the blood sugar within fairly reasonable limits, that is, at least below the renal threshold. The disadvantage of amorphous insulin is, aside from occasional reactions of an allergic nature, the necessity of its frequent administration. It was natural, therefore, that an effort be made by investigators to discover some form in which insulin could be administered that would provide for a more prolonged effect.

Hagedorn was the first to develop an insulin of this type. Insulin by being combined with protamine is liberated in the tissues at a much slower rate. This did much to increase its usefulness. It now became possible to introduce insulin into the body in such a way that it could act as a depot by liberating small quantities over a considerable period of time. In this way it stimulates in a small way the function of the islets. The complication of allergy, however, was not remedied. Individuals who were allergic to beef had difficulty, therefore, in using insulin from this source. To overcome this, insulin was prepared from pig tissue.

The most recent development in insulin has been the successful preparation of this material in the crystallizing form. It was discovered that zinc not only facilitated the crystallizing process, but in the purest specimens small amounts were always present. Crystalline zinc insulin, as this material is called, is much less soluble in aqueous solution than when it is in the unmodified or amorphous stage. It has been reported to exert an active effect upon the blood sugar of diabetics for from eight to nine hours, while the effect of protamine zinc insulin is effective for from fifteen to eighteen hours. The presence of added zinc to crystalline insulin seems to enhance its effect as compared with unmodified insulin in that it lasts longer and the same reduction in blood sugar can be accomplished with fewer units. The use of crystalline zinc insulin does away almost entirely with allergic reactions. Crystalline insulin as it is actually prepared does not contain more than 0.4 mg. of zinc per 1,000 units. The probable amount of zinc that is chemically combined with insulin is about 0.4 per cent by dry weight or 0.02 mg. per 100 units of insulin. In the commercially available solution of zinc insulin crystals, the amount of zinc has been specified at 0.02 to 0.04 mg. per 100 units.

Let us return now to a discussion of diabetic coma and the procedures that should be employed in restoring the individual to consciousness and to a

more normal condition. Diabetic coma is not due to hyperglycemia. It is due instead to an excessive accumulation of ketone bodies in the blood.

In the human organism counteractive influences are at work to maintain a stable balance or, as Cannon calls it, homeostasis. Constant blood sugar values are attained either by causing an increase in glycogenolysis and gluconeogenesis, or by inhibition of glycogenesis and reduction in the output of insulin or an impairment in its activity. Himsworth has developed a very strong argument to the effect that a rise in blood sugar is simply a compensatory mechanism on the part of the body to make up for a lack of insulin or an impairment in its efficacy. One may imagine that the amount of sugar in the blood exerts a certain pressure favoring its penetration through tissue membranes and that insulin in some way assists in this penetration. In a deficiency of insulin or a reduction of its activity, in order to get the same amount of sugar passing into the tissues, the pressure must be increased by an elevation of blood sugar. The forces which accomplish a rise in blood sugar, however, also provide for an increased oxidation of fat.

The mechanism for increasing the amount of sugar in the blood is somewhat as follows: There are certain centers in the brain which are as sensitive to a reduction in blood sugar as other centers are to a reduction in oxygen. These centers bring influences to bear on the anterior lobe of the hypophysis which in turn elaborates a hormone or hormones which in their turn act on the adrenal cortex and medulla. The latter, as a result of this activation, secretes adrenalin which causes an extra breakdown of liver glycogen and a discharge by the liver, therefore, of more sugar into the blood. If the blood sugar reaches a still lower level, as for example, 60 mg., another hormone is produced by the pituitary which acts on the adrenal cortex, causing it to discharge its internal secretion into the blood. This, in turn, brings about gluconeogenesis, that is, the derivation of sugar from certain products of protein breakdown and perhaps also from the glycerol fraction of fat. The site of this activity is in the liver. While all this accomplishes an increase in blood sugar, at the same time it produces an increase in available fatty acids. The tissues, therefore, due to the lack of insulin and to an insufficient rise in blood sugar, burn less sugar and more fatty acid. This results in an accumulation of the end products of incomplete fat combustion.

It must be kept in mind, moreover, that sugar is a powerful diuretic, so that when the renal threshold is exceeded, this material, along with large amounts of water and other water-soluble elements,

is rapidly washed out of the body. Furthermore, the presence of ketone bodies and the necessity for their elimination removes a considerable quantity of alkali. The urine becomes highly acid and the body suffers a reduction in its alkaline reserve as well as serious losses of water, minerals and water-soluble vitamins, especially the various members of the vitamin B group. The proper therapeutic care, therefore, of a patient suffering from diabetic acidosis and coma will depend entirely on the proper appreciation of the various factors just enumerated.

Treatment of acidosis and coma can best be discussed by dividing such patients into two groups: those who are conscious and capable of swallowing (acidosis without coma), and those who are unconscious and incapable of swallowing (acidosis with coma). In either case, sight should not be lost of the fact that individuals in both groups are suffering from many of the symptoms of water intoxication or, more specifically, a low blood sodium chloride. The main use of glucose is to guard against hypoglycemia. It is essential, of course, that blood and urine sugar be determined frequently, usually just before the administration of insulin. In acidosis without coma, the food at first is restricted to water, clear, fat-free and well-salted broth, tea, coffee and orange juice. Twenty-five units of insulin are given subcutaneously and fifteen minutes later 50 gm. of glucose flavored with lemon juice is given by mouth. This procedure is repeated every three hours until the urine passes only a trace of sugar and no ketone bodies. At this time the patient is given a light diet made up almost exclusively of carbohydrate. This is divided into three meals and the insulin given antecubum in such measures that there will be one for every three grams of carbohydrate. Between meals and three hours after the evening meal, ten units of insulin are given, followed by thirty grams of glucose. One or two days later the diet is increased further and the insulin is administered in such dosage that there will be a unit for every four grams of carbohydrate. Following this, the patient is ready for final adjustment of the diet and insulin dosage.

For patients who are unconscious or vomiting, glucose will have to be administered either subcutaneously or intravenously. A ten per cent solution can be given subcutaneously. Intravenous administration is usually employed. The glucose is made up in a 10 per cent solution in saline and one liter given at such a rate intravenously that an hour and a half will be employed for running it into the vein. Fifty units of insulin are given before the transfusion and fifty units afterwards.

Frequently it has been noted that death may occur in patients suffering from coma even after recovery from acidosis. This has been ascribed to disturbances in water metabolism and electrolyte balance. In this connection the administration of sodium chloride is highly important. A transient hyperchloremia is not to be regarded with concern, since it will be retained only until such time as the base concentration is restored to normal. Clinical improvement will be found to parallel the restoration of body fluids and total ions rather than a replacement of individual ions. The administration of insulin is to increase the combustion of carbohydrate and thereby reduce the production of ketone bodies.

Both in the treatment of diabetic acidosis and coma, and in the pre- and postoperative care of the diabetic undergoing surgery, obesity with its associated high blood cholesterol is a serious complicating factor. It not only predisposes to the likelihood of a complicating acidosis in surgery, but makes necessary the administration of an adequate amount of glucose and sufficient insulin necessary to complete its oxidation. Owing to the well-known effect of most anesthetics to produce metabolic disturbances of the liver and to increase the chances of septic complications such as bronchitis or pneumonia, it is advisable to use regional or local anesthesia whenever possible, or in the event these can not be employed, to use such drugs as avertin with gas and oxygen.

It is preferable to have a diabetic patient for at least three days prior to surgery. During this time, an attempt is made to build up glycogen reserves and reduce blood cholesterol and blood sugar to within normal limits. It is also desirable to be assured that the body fluids are sufficient for the needs of the individual. To accomplish these purposes, water, broth, fruit juices, oatmeal gruel, etc. may be employed with such dosages of insulin as is necessary to keep the urine sugar-free and bring the blood sugar to within normal limits. Unmodified insulin should be employed to obviate any hypoglycemic complications that might arise during the operation. It is desirable to administer easily assimilable foods in the form of carbohydrate up to within four hours of the operation. After the operation, a saline solution containing 2.5 per cent glucose should be given subcutaneously and, if possible, 500 cc. of salt solution per rectum. Mouth feedings usually made up of carbohydrate fluids should be instituted as soon as possible and also within the first twenty-four hours, 100 gm. of glucose should be given either subcutaneously or by

mouth and enough insulin to keep the urine sugar-free. Sugar solutions are not given intravenously in order to avoid overburdening the heart. If necessary, as a supportive measure, 30 to 40 cc. of 50 per cent sugar solution can be given intravenously at frequent intervals.

It should be realized that acute infections and other types of toxemia seriously impair glucose tolerance and the effectiveness of insulin. Because of this, larger doses of insulin will have to be employed than is usually the case.

Until recently the diabetic patient has been regarded as extremely bad surgical risk and an operation was undertaken only in an emergency and in any circumstance with much trepidation. Too frequently it has ended in death from coma or acidosis. Certain factors combine to make a diabetic a poor surgical risk. There are increased susceptibility to shock, intolerance to trauma, cardiorenal lesions, lessened recuperative and reparative powers, the everpresent threat of acidosis, coexistent arteriosclerotic changes, depletion and dehydration from the effects of starvation, diarrhea and vomiting, and the disturbing effect upon metabolism exerted by fever and infection, to say nothing of the effects of the anesthetic itself.

The pathology associated with diabetes that is important from a surgical standpoint is to be found in the arteries of the extremities, especially of the legs. Arteriosclerosis is a common finding in diabetics above the age of forty. Long continued hypercholesterolemia is said to promote calcification. It is interesting to note the mechanism that is proposed to explain this. High fat diets lead to excessive amounts of sterols such as cholesterol in the blood. The presence of materials of a provitamin nature in the subcutaneous layers exposes the individual to a superabundance of vitamin D, when the skin is exposed to the action of sunlight or other sources of ultraviolet irradiation. The long continued action of large amounts of vitamin D is stated to be the cause of the excessive calcification occurring in the arteries and elsewhere. Preoperative treatment, therefore, by employing a high carbohydrate-low fat diet reduces the amount of cholesterol in the blood stream and thereby makes less likely a complicating acidosis. It also builds up reserves of glycogen, fluids and minerals.

I would like to point out another complication that may result from the high water exchange that a diabetic is constantly experiencing. Not only are the water soluble minerals being carried out along with the excessive sugar, but some of the water-soluble vitamins as well. This is especially true of

vitamin B₁ and members of the vitamin B₂ complex. It is difficult enough for the average normal individual eating an average diet to provide himself with enough vitamin B₁ for his needs. It is much more difficult for a diabetic who is on a diet largely restricted in those carbohydrate foods which are ordinarily considered the best source of this vitamin. It is not to be unexpected, therefore, to find in diabetic patients complaints of neuritis which may often be relieved by the administration of vitamin B₁.

The physician taking care of the diabetic is also always on the qui vive for early evidences of conditions predisposing to diabetic gangrene. One of the most common of these is redness of the toes or feet associated with various sensory disturbances. It seems to me pertinent at this time to call to your attention the fact that instead of these being evidences of a pregangrenous condition, they are just as apt to be indicative of nicotinic acid deficiency, or in other words, early symptoms of pellagra. There is some reason to believe that the presence in the diet of adequate amounts of vitamin B₁ serves the added advantage of increasing the sensitivity of the individual to insulin. Glossitis and stomatitis are not infrequent occurrences in diabetes. These are further indications of a lack of the antipellagra factor. There is some evidence to indicate that another member of the vitamin B₂ complex, namely riboflavin, is an indispensable element necessary in the phosphorylation of glucose. Riboflavin forms an important constituent of Warburg's yellow respiratory ferment. It is thought that this ferment is concerned in the phosphorylation of glucose, by which its rate of absorption from the intestine, from the renal tubules, and by the tissue cells themselves is improved.

Frequently diabetics on a diet containing a relatively large amount of vegetable foods develop a marked yellow discoloration of the skin resembling that of jaundice. This condition is due to an accumulation of a yellow pigment known as carotene. It is due to the inability of the liver to convert carotene into vitamin A. In this respect hypercarotenemia may be considered as evidence of disturbed liver function. More significant than this, perhaps, is the associated fact that such an individual may also be suffering from the effects of too little vitamin A. When one recalls the increased susceptibility of the diabetic to respiratory infections and the not infrequent fatal termination of diabetes by pulmonary tuberculosis, one can not help but feel that a long continued and fairly severe deprivation of

vitamin A has contributed much to the development of these conditions.

With the low fat diets now being used in the treatment of diabetes, one needs to use special precautions to avoid the possibility of a deficiency of vitamin A. It should be obvious from these statements that vitamin A should be administered to diabetics in the preformed state such as that occurring in fish liver oils and certain other natural body fats. When a diabetic's dietary is limited to 50 or 60 or even 80 grams of fat, the chances are very good that even with careful selection of these fats, a vitamin A deficiency may develop in a latent form if not a more obvious one.

The dietary care of the diabetic seems to resolve itself ultimately into the care of the young and the adult diabetic. The total caloric requirement of both age groups is usually adjusted in such a way as to keep the individual 5 to 10 per cent under the average weight. The total calories for adults is usually based on 30 calories per kilo of body weight and for younger people it may range from 45 to 80 calories per kilo. For members of the young group, the protein ranges from 2 to 2.5 grams per kilo and in adults from $\frac{3}{4}$ to $1\frac{1}{4}$ grams per kilo. Fat is usually included to the extent of 50 to 75 grams and carbohydrate from 100 to 300. In other words, the ratio that should exist between grams of carbohydrates and grams of fat should be from 2:1 to 4:1. It is doubtful if it is ever advisable to start with the diet less than 100 grams of carbohydrate.

If regular insulin is to be used, usually $\frac{5}{8}$ of the total insulin is given before breakfast and $\frac{3}{8}$ before supper. If protamine zinc insulin is to be employed, it is given either before breakfast or before supper. Personally, I prefer administering the protamine insulin before supper, owing to the fact that I would rather have the maximal effect of the insulin exerting itself during the time the individual is ingesting food rather than during the time his blood sugar is falling as it does between supper and breakfast.

Responses of individuals to insulin and to the dietary regime indicate further the advisability of separating diabetics into two groups. One might place the older individuals into an insulin-resistant group and young individuals into an insulin-sensitive group. The following tabulation indicates the differences in these two groups.

<i>Insulin Resistant</i>	<i>Insulin Sensitive</i>
1. Embraces the older age group.	1. Embraces the younger age group.
2. Individuals usually obese.	2. Individuals usually thin.
3. Usually have high blood pressure.	3. Usually blood pressure normal.

- | | |
|--|---|
| 4. Requires many units of insulin to produce reduction in blood sugar. | 4. Requires little insulin to cause equal reduction in blood sugar. |
| 5. Shows mild glycosuria upon withdrawal of insulin. | 5. Shows marked glycosuria upon withdrawal of insulin. |
| 6. Arteriosclerosis evident. | 6. Arteries normal. |
| 7. Onset of diabetes insidious. | 7. Onset of diabetes sudden and severe. |
| 8. Raising carbohydrate of diet increases need of insulin and causes greater glycosuria. | 8. Raising carbohydrate of diet does not increase glycosuria or amount of insulin needed. |
| 9. Increasing carbohydrate of diet makes patient worse. | 9. High carbohydrate diets improve the patient. |
| 10. Utilization of glucose by tissues not increased by insulin. | 10. Utilization of glucose by tissues increased. |
| 11. Due to insensitivity to insulin probably to over-secretion of anterior pituitary. | 11. Due to actual lack of sufficient insulin. |

Members of the insulin resistant group are frequently benefitted by roentgen therapy applied to the pituitary.

So much has been said about the advantages of a high carbohydrate diet in diabetes that it would seem amiss not to include in this paper at least some of the outstanding points in this mode of treatment. High carbohydrate diets are usually made possible by inclusion of more fruits and vegetables. By so doing, not only is ketosis eliminated, but the associated hypercholesterolemia.

A reduction in the acidity of the urine and perhaps also of the tissues is stated to render insulin more effective. Attaining a more normal alkalinity and a reduction of excessive cholesterol in the blood helps to restore blood pressure to normal or at least to prevent it from becoming worse. The increase in fruits and vegetables aid materially in restoring those minerals upon which the body depends for maintaining its alkalinity and the vitamins, the importance of which has already been related. Any possible advantage from the presence of vegetable insulin or of choline would also be obtained.

The so-called high carbohydrate diets actually are not as high in carbohydrate as one might think. Direct determinations of the available carbohydrate in foods show that fruits and vegetables may be increased from 30 to 60 per cent by weight without an actual increase in carbohydrate. For example, a diet supposed to contain 50 gm. of carbohydrate according to old food values could be made to include 65 to 80 gm. in accordance with newer values.

All animals possessed of a pancreas produce insulin which plays a very important role in the metabolism of carbohydrate. Glucose is polymerized into glycogen, and glycogen again broken down into glucose. Interestingly enough, all plants and vegetables possess the ability to convert glucose into

starch or glycogen and later break them down into glucose. Yet these animals do not possess a pancreas. It can not be presumed, therefore, that they produced no insulin. As a matter of fact, it is assumed that there is present in the tissue cells in all forms of life, a substance closely resembling pancreatic insulin. Similarly, it is because of the presence of tissue insulin that the body of a depancreatized animal can still metabolize a very appreciable amount of glucose. Pancreatic insulin apparently is used by the body only to augment and adequately supplement tissue insulin.

The treatment of the diabetic, whether in acidosis, coma, suffering from an infectious process or anticipating a surgical procedure, is, therefore, designed to fit in with and supplement those natural processes in the body that govern and regulate carbohydrate metabolism. In most instances, the higher carbohydrate diets meet these requirements best and also prevent development of those complicating factors which hitherto have made treatment of diabetes so difficult.

URINARY TRACT INFECTIONS

PRESENT STATUS OF TREATMENT*

T. R. MONTGOMERY, M.D.

PORTLAND, ORE.

Although mandelic acid and sulfanilamide have proven of tremendous aid in the satisfactory therapy of urinary tract infections, both acute and chronic, the underlying principles of successful therapeutic management of these infections have not altered. Before the introduction of these two agents, treatment of such infections was quite commonly a specialized procedure, requiring oftentimes expensive instruments and graduate training in skilled use of these instruments. This circumstance, then quite naturally, either took care of urinary tract infections out of the general practitioner's hands or forced him to manage the situation as best he could which often was distinctly to the patient's disadvantage. This statement is not intended to reflect upon the general physician's ability, but rather upon the lack of proper available information and effective drugs.

Until the effectiveness of the ketogenic diet was demonstrated, the most common treatment employed was lavage of the renal pelvis by means of cystoscopy and ureteral catheterization. But both of these forms of therapy, to be really effective, involved either the services of an urologist or special dietary supervision, not to mention the discomfort

* Read before the Sixty-fifth Annual Meeting of Oregon State Medical Society, Gearhart, Ore., Sept. 6-9, 1939.

and expense to the patient. The effectiveness of beta-oxy butyric acid as a bactericidal agent stimulated the search for other similarly effective organic acids which might be taken by mouth and excreted unchanged by the kidneys. This led to the employment of mandelic acid which the various manufacturing pharmaceutical houses have gradually evolved to its present relatively simple and fairly palatable state.

Frequently, however, sufficient lowering of the urinary pH to make mandelic acid effective could not be accomplished. There was no means of successfully combating infections in an alkaline urine until sulfanilamide was tried in the treatment of urinary tract infections in general, after which it was discovered that here was a drug somewhat more effective in an alkaline urine than if the medium were acid. Thus we find ourselves completely armed. It is now rarely, if ever, necessary to resort to lavage of the renal pelvis. Special dietary supervision is no longer necessary, nor is one required to have at his disposal special equipment or the aid of expert laboratory assistance.

The primary objective of treatment of infections of the bladder and kidneys is to eliminate the underlying agent responsible for the mucosal inflammation and pyuria. By so doing, the patient's symptoms are also usually relieved. In almost every instance this causative agent is a bacterial organism, and in better than 70 per cent of all cases it is a colon bacillus or one of its near relatives. The prevailing tendency is to employ some bladder sedative or simply alkalization to bring about relief of symptoms as quickly as possible with utter disregard for the chief precept of treatment as well as the patient's future. I do not mean to intimate that the patient's comfort is of no concern, but rather do I wish to stress the importance of taking positive action against the invading organism, while at the same time relieving symptoms.

A good point at which to take off in this discussion seems to me to be a description of what is generally considered the simplest and most satisfactory method of assembling the necessary diagnostic data, when a patient presents himself for care because of urinary distress. Quite naturally a careful history is the first step and a most important one. If gross hematuria has occurred or there is a definite history of its occurrence in the past, failure to see to it that that patient has complete urologic investigation promptly by a competent urologist is, as you all now know, nothing short of criminal negligence. Palliative treatment of gross bleeding from the

urinary tract by oral medication is becoming slightly less common than it has been in the past, but even in this enlightened age bladder carcinomas still have on the average bled and been so treated for one year before being subjected to proper investigation and treatment. Since I have momentarily digressed on the subject of gross hematuria, let me add further that it is of great advantage to the urologist to do his cystoscopy, when possible, at the time bleeding is taking place.

Routine physical examination must be done and should include regional examination of renal and vesical areas as well as examination of the genitalia to elicit all possible genitourinary information obtainable by physical diagnosis. If any vaginal or urethral discharge is present, it should be examined in a wet smear for trichomonas vaginalis as well as dry smears stained by Gram's method to search for the gonococcus.

At this point, if gonorrheal infection has not been demonstrated, the labia and vestibule are thoroughly cleansed with soap and water and the bladder catheterized for a clean specimen. Where one is dealing with the problem of urinary tract infection in the female, a clean catheter specimen only is of value. In the male patient, on the other hand, catheterization is quite unnecessary, a two-glass voided specimen fulfilling all requirements. If the male patient will be asked to void in two clean glasses, passing two or three ounces at least in the first glass and the remainder of his bladder content in the second glass, the urine in the second glass will be exactly the same as a catheter specimen. This has been proven to be true by means of bacterial cultures of urine obtained by the various possible methods. The urine in the first glass, which has served to wash from the urethra secretions from the prostate and other periurethral glands, as well as the normal bacterial flora of the anterior urethra, is inspected grossly and discarded.

EXAMINATION OF THE URINE

A portion of the urine obtained by catheter in the female or from the second glass of the male patient is placed in a centrifuge and left to spin for roughly five minutes at moderately high speed. The remainder is used for pH determination. Centrifugation is perhaps not absolutely essential but it certainly greatly facilitates concentration of the urinary sediment and makes location of pus and bacteria much more certain. Especially is it of value toward the end of treatment, when search is more difficult and negative findings more important. Determination of pH can be done in less time than

required to describe the method. The indicator which has the most useful range and is the most easily read is chlorphenol red, a dye with pH range of 5.0 to 6.8 approximately. To one cubic centimeter of the urine in a test tube is added one cubic centimeter of distilled water and three or four drops of chlorphenol red indicator. The pH of the urine is then determined by matching the resulting colored solution with a color chart in natural light, clear yellow or amber being pH 5.0 and deep red, the color of the original dye, indicating a pH of 6.8. The pH of distilled water is of no concern, since the urine contains sufficient buffer salts to offset any possible error from this source.

When the urine has been centrifuged sufficiently, the supernatant urine is poured from the tube, leaving only one cubic centimeter approximately in the bottom with the sediment. This latter is allowed to flow out in a drop on a clean glass slide, covered with a thin cover slip and examined in wet smear under the high power objective of the microscope for pus, red blood cells, epithelial cells, casts and even bacteria if numerous. After this examination the cover slip is slid or flipped off and the film of urine allowed to dry.

When dry it is fixed by passing through a flame four or five times, stained by a modification of Gram's method which requires no more than one to one and one-half minutes. This stained smear is then searched carefully under oil immersion for bacteria. In most instances the wet smear will reveal pus of some degree and the stained smear gram-negative bacilli. Much less often gram-positive cocci will be found to be the invader. Still less often both will be present. The possibility of a tuberculous infection must always be borne in mind and search for tubercle bacilli made repeatedly, if no bacteria are found in a purulent urine by Gram's method of staining. It should be stated, however, that in one fair sized series of cases of renal tuberculosis studied by Alcorn, organisms of the usual type were found in the urine in addition to the tubercle bacillus in something like forty-five per cent of the cases.

If the female patient complains of severe frequency, in spite of which the urine is negative both microscopically and by Gram's stain, one must think immediately of Hunner ulcer or interstitial cystitis which requires the services of an expert cystoscopist for confirmation and treatment. You may have wondered why culture of the urine has not been mentioned. It has been found that for general purposes quite satisfactory treatment of urinary tract infections can be carried out without

the aid of bacterial culture, guidance in treatment depending wholly upon careful Gram's staining.

TREATMENT

With presence of infection demonstrated, the choice of drug is the next problem. Whether the infection involves the kidneys or is confined to the bladder is not important, since the treatment is the same in either case. If the patient has had associated chills or fever, there is pyelonephritis. Uncomplicated cystitis practically never produces fever. Be that as it may, the choice of drug lies between mandelic acid, sulfanilamide and neoprontosil. Each of them is about equally effective in the same situation with a few exceptions. If the organism is a gram-negative bacillus, the choice of drug hinges upon the comparative cost, the patient's general condition, ability to take medication without gastric upset, and the state of the hemoglobin and erythrocytes of the blood. These drugs are interchangeable except in those infections produced by streptococcus fecalis, in which sulfanilamide and its derivatives are ineffective. Sulfanilamide and neoprontosil are somewhat less expensive than mandelic acid and produce less digestive disturbances as a rule. However, the latter is now being dispensed as an enteric coated tablet which reduces the gastric irritation formerly encountered.

As a rule, unless a patient is in very poor general condition with considerable anemia, or is very old, I choose to prescribe sulfanilamide because it is so consistently effective. The average person from eighteen to sixty years of age will tolerate a dose of forty grains daily, split in four ten grain doses and taken at meal time and upon retiring for the night. This amount of the drug is adequate for most any uncomplicated infection, if continued for from six to ten days, and usually produces few serious toxic symptoms unless the patient happens to have a definite idiosyncrasy for sulfanilamide.

During treatment many patients will have mild disturbances such as slight headache, occasionally nausea, often mild anorexia, fatigue and even dyspnea on exertion. Slight cyanosis of the lips and finger nails is not infrequently detectable. However, if the patient is seen daily or every other day during treatment, one is capable most of the time of recognizing more dangerous toxic symptoms which require either reducing the dose, stopping the drug altogether, or changing to neoprontosil. If sulfanilamide is taken either just before or just after meals, nausea is less common. If this provides insufficient protection, a half teaspoonful of baking soda dissolved in water and drunk after the pills, will

often solve the difficulty. Occasionally methylene blue taken in one grain tablets three or four times a day with the sulfanilamide will take away all toxic symptoms. Limitation or restriction of the diet is unnecessary.

It is a good plan, I believe, always to fully discuss the drug with the patient before it is started, explaining the toxic symptoms that may develop, and stressing the necessity of avoiding any other drug, even cathartics, during the time it is being taken. If constipation is troublesome, enemas, mineral oil or cascara may be used but the patient should take nothing without consulting the physician about it first. Aspirin is neither objectionable nor particularly helpful in relieving headaches.

Older patients, and by that I mean those in the late sixties or beyond, often do not tolerate sulfanilamide well. They can, however, take twenty grains daily in most instances and sometimes thirty grains. Oddly enough this dose suffices to bring about some of the most startling therapeutic results one ever sees. An elderly male with prostatism will frequently have miraculous clearing of an infected urine, with simultaneous relief of severe symptoms of frequency and nycturia after only twenty or thirty grains of sulfanilamide. Relief may be only temporary because residual urine in the bladder becomes so readily reinfected, or cannot be completely sterilized in the first place. These elderly patients must be observed especially closely. In general, mandelic acid is safer, but in my experience it has not been as startlingly effective in these patients. Likewise neoprontosil is safer to use but also is less effective, even though employed in a dosage of twenty grains more daily than sulfanilamide, which increased dosage is necessary to accomplish even comparable results.

If one chooses to prescribe mandelic acid, it may be given either as a liquid or in tablet form. In either case the dosage should total approximately ten to twelve grams daily, since in the original clinical work with this acid this amount was found necessary to produce bactericidal concentration in the urine in vitro tests with the different types of organisms commonly cultured from infected urines. Smaller amounts in adults no doubt will sometimes sterilize the urine but one is less certain of this result with only 6 or 8 grams daily.

You are all familiar with the necessity of maintaining the urinary pH at 5.0 to 5.5 to insure bactericidal action of mandelic acid. Importance of limiting total fluid intake for each twenty-four hours to not more than approximately 1500 cc. also bears

stressing, since this measure alone is not infrequently the basis for successful treatment of infections which had previously had inadequate response to mandelic acid therapy. Concentration of the acid at the renal level is essential. In order properly to see patients through the course of treatment of an infection of the urinary tract, they should be seen daily or every other day as previously stated, and a voided urine specimen examined for pH level by the method described above.

If the pH is higher than 5.5 it is advisable to question regarding the use of carbonated beverages, baking soda, alkaline cathartics, the citrus fruits or their juices. If these have been excluded, then additional acidifying drugs such as ammonium chloride or ammonium nitrate in enteric coated tablets in a dose of 60 to 75 grains daily should be added until the pH returns to the proper limits. Usually the mandelic acid and the acidifying agent combined with it will prove sufficient to maintain adequately low pH levels. The urine will acidify if the patient faithfully takes one of the acidifying drugs mentioned above in doses up to 90 to 120 grains daily, unless the urinary tract is inhabited by a urea splitting organism. Such organisms produce a strongly alkaline "ammoniacal" urine by splitting the urine urea into ammonia and water. This process cannot be overcome short of eliminating the organism itself by some other method.

For most any uncomplicated infection, eight to ten days of well supervised therapy is quite sufficient to bring about sterilization of the urine. One should examine two or three catheter urine specimens (voided second urine in the male) for pus and bacteria to exclude completely the presence of either, toward the end of the course of treatment. If the urine is found to be consistently "clean," then one may assume a cure, but to add to the certainty it is wise to prescribe acidification constantly for the next two or three weeks. If sulfanilamide or neoprontosil were used, they are also wisely repeated in the same or slightly smaller dosage for five to six days after an elapsed interval of ten days or so with no treatment.

By following the procedures outlined one can quite safely predict complete and permanent cure of the infection in well over 90 per cent of the infections treated. Few recurrences take place, if treatment is persisted in somewhat beyond the time when a sterile urine is found unless other complicating factors exist.

By way of conclusion it seems proper to explain what I have meant by "other complicating

factors," to which I have referred several times. This term includes any abnormality of the urinary tract, such as congenital anomalies which are quite common, hydronephrosis with poor renal drainage, the presence of renal or vesical calculi, in the face of which infections are almost never eliminated. It includes, as well, vesical neck obstructions with retention of urine in the bladder in both sexes, though much more commonly in the male. Infections in the prostate and seminal vesicles, infected diverticula or shallow pockets in the female urethra, skeneitis and urethral strictures all also are frequently responsible for persisting or recurring infections. Another common cause is the organism itself. One of the most treatment-resisting of all is the aerobacter aerogenes, a Gram-negative bacillus. Not infrequently mixed infections of both bacillary and coccal forms exist, the coccus being overshadowed by the bacillus. This has been revealed with the use of sulfanilamide which sometimes will eliminate the offending bacillus, leaving a streptococcus fecalis unscathed to continue the infection.

The management of acute pyelonephritis, marked by chills and fever so commonly, is very little different from the treatment of urinary tract infections in general as already outlined. In this type of problem sulfanilamide is distinctly superior to other urinary antiseptics for several reasons. In the first place, it makes unnecessary any special adjustment of the urinary pH. More important still is the full fluid intake permissible with sulfanilamide as against the necessity of fluid restriction where mandelic acid is used. Another advantage of sulfanilamide is the ease with which it can be taken and tolerated by most patients regardless of age. Furthermore, even badly damaged kidneys will secrete bactericidal concentrations of sulfanilamide, whereas this is definitely untrue with mandelic acid or methenamine.

Where there is abnormal retention of nitrogen in the blood due to renal damage, difficulty is often encountered in producing a sufficiently low urinary pH to make either mandelic acid or methenamine effective. Mandelic acid is a definite renal irritant and if it is used in the presence of an elevated blood urea nitrogen, the latter should be followed closely at frequent intervals for signs of increasing elevation. I have seen the urea nitrogen double in the space of a few days in a patient being treated with mandelic acid for a persistent infection in her single remaining kidney.

In acute infections the dosage of sulfanilamide is approximately the same as in chronic infections, save that one may hasten saturation with the drug

by administering 10 or 15 grains every four hours during the first twenty-four hours. If marked gastrointestinal symptoms accompany the acute pyelonephritis, as is often the case, sulfanilamide may be administered in 40 to 500 cc. of sterile water either subcutaneously or intravenously, two or three times daily until oral administration is possible.

One must always be on the alert for acute coccal blood stream infections of the kidney which produce acute illness with chills and fever, renal tenderness, leukocytosis, but not much of anything in the urine by the usual examination. Prolonged centrifugation, however, especially in the first few days or a week will quite regularly reveal the Gram-positive coccus in the urinary sediment. Treatment of these infections is not difficult and surgery is very rarely necessary.

Management of urinary tract infections in infants and children is essentially the same as in adults, the same drugs, the same method of obtaining and examining urine specimens all holding true. If sulfanilamide is used, and all its advantages apply in children as in adults, it is customary to give about 10 grains per twenty pounds of body weight daily, divided into four to six doses. If mandelic acid is used, as is necessary if a streptococcus fecalis infection is present, one must produce a concentration of 0.5 to 1.0 per cent of mandelic acid in the urine to insure bactericidal concentration. A convenient method of dosage, therefore, is to give one gram of the drug for every 100 cc. of urinary output in twenty-four hours. Since it is almost entirely excreted in the urine, one should produce a concentration of approximately 1.0 per cent. This is given in four doses daily. Criteria for cure are the same as in adults but here again, if response is not prompt, complete urologic investigation should be obtained. Congenital anomalies are often responsible for persistent infections in children, particularly ureteral and unrethral obstructions which require surgical removal.

I wish particularly to plead for careful examination of the urine in all postoperative patients, particularly in those who have required postoperative catheterization. Infection is very frequent, regardless of how proud the surgeon may be of the care exercised in catheterization and avoiding vesical overdistention. Such infections are easily treated and cured, if sought for and found during convalescence. By sterilizing the urine in these patients many of the later urinary tract disturbances may be avoided.

RUPTURE OF THE URINARY BLADDER*

ALEXANDER H. PEACOCK, M.D.

SEATTLE, WASH.

The purpose of this paper is to discuss ruptures of the posterior urethra and bladder, embracing the anatomy, etiology, mechanism, symptoms, diagnosis and treatment. It is often very difficult to differentiate between ruptures of the bladder proper and the first portion of the urethra as it runs through the prostate.

It is well to visualize, first of all, the bony pelvis in which the urinary bladder is located. This structure is its chief protector. The bladder lies deep in the pelvis and is shielded by the rami of the pubes. Furthermore, it rests upon the pelvic diaphragm. This is penetrated by the prostate and urethra in the male. Another anatomic point of interest is the peritoneum. This tissue is reflected from the anterior, abdominal wall over the dome and posterior wall of the bladder, leaving a prevesical pocket. The extent of the peritoneal covering varies with the distention of the bladder. On the sides of the bladder there is no peritoneum. The relationship of the peritoneum is well to remember, as rupture or tear to the bladder wall can occur, either intra- or extra-peritoneally, markedly altering symptoms and gravity of the rupture. The point most likely to rupture is the superior, posterior portion of the bladder which is subject to the greatest amount of pressure and has the least support (Cabot: *Modern Urology*, Vol. II, p. 63).

MECHANISM OF INJURY

It is readily understandable how a distended bladder is much more subject to rupture than one collapsed or semiempty. A blow may be distant as falling on the buttocks; it may be a straddle fall, a blow to the lower portion of the abdomen as a kick; a penetrating wound from sharp bone fragments, bullet, shrapnel or foreign bodies.

One of the recent changes in the high incidence of fracture of the pelvis has been motor vehicle accidents, where the pelvis is crushed against the steering wheel or dashboard. This has been augmented by the slipping forward on the seat on which the injured was riding.

Fracture of the pelvis can injure the bladder in several ways: (1) by direct blow (fig. 1), (2) by penetrating wounds produced by fragments and sharp points of the fracture (fig. 2), (3) by separation of the symphysis pubis in which one ramus rises higher than the other and literally severs the

urethra in its excursion upward (figs. 3, 4). Rupture of the bladder has been particularly noted in those who are intoxicated, for under this condition the bladder fills very rapidly, due to the excessive assimilation of alcoholic drinks. In these individuals there is not the same sense of fullness of the bladder that is found in those who are sober. Falls from heights, stumbling over logs or other such objects, or with the debauched patient lying upon the ground a direct blow is often received on the lower abdomen. In my experience, however, the greatest number of ruptured bladders have occurred from motor vehicles. This is also true of the hospital records of King county.

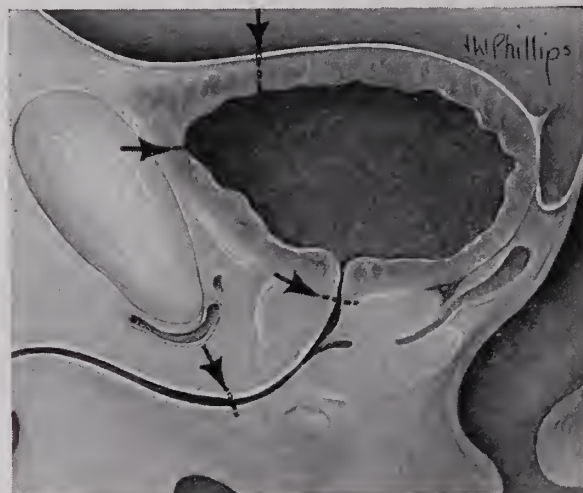


Fig. 1. Points of rupture.

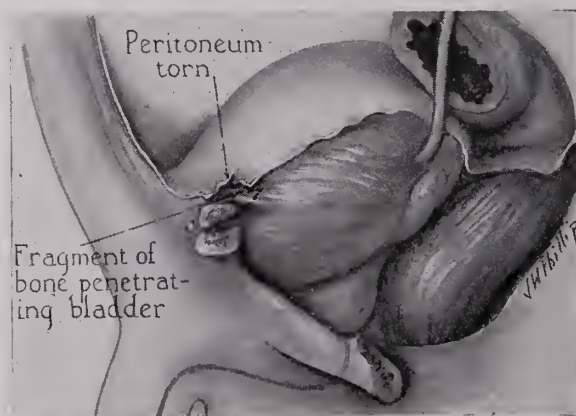


Fig. 2. Fragments of pubis puncturing full bladder.

A survey of the Statistics of Diseases and Injuries in the United States Navy is illuminating. Athletics and recreational sports come first with 1,466 cases, falls of all kinds 967 and accidents from vehicles 860. The high incidence of automobile injuries has been noted in naval and military forces and runs parallel to civilian life.

*Read before Western Branch, American Urological Association, Del Monte, Calif., April 28, 1939.

SYMPTOMS

The outstanding symptom is shock. This is due to a number of causes and one should examine very thoroughly the rest of the abdomen and head for other injuries. A lowered blood pressure and loss of blood must also be watched for. Usually there is local pain, generally suprapubic which may be mild in character. Inability to urinate is rather significant. There may be blood at the end of the meatus

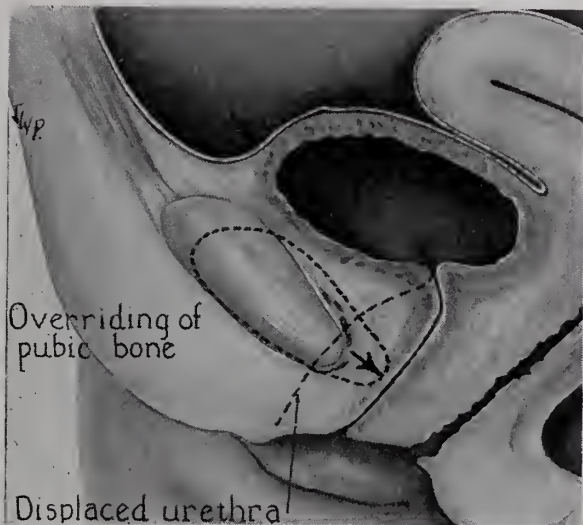


Fig. 3. Excursion of urethra against pubic arch.

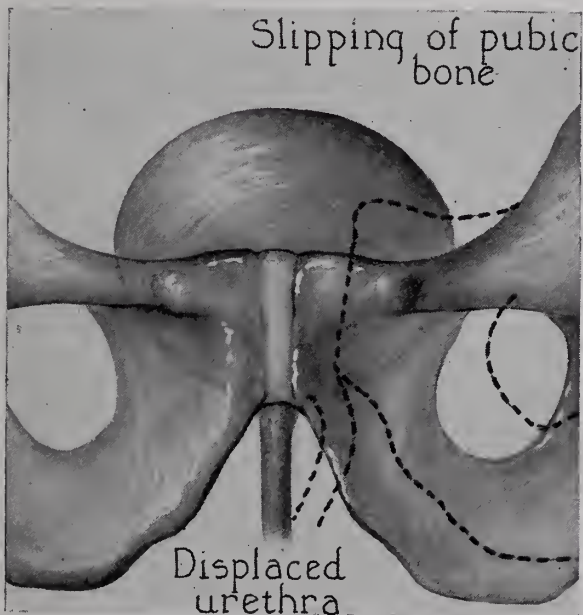


Fig. 4. Separation and overriding of pubes without fracture.

but it may be possible to pass a catheter without a great deal of trouble. Bloody urine is always significant of an injury. There have been cases in which the catheter withdrew clear urine, and there

was still a ruptured bladder, the urine escaping into the peritoneal cavity.

As the hours go by following such an injury, rigidity of the abdominal muscles develops with tenderness over the lower abdomen. This often progresses into a marked spasm and is suggestive of peritoneal irritation. This is one of the most important signs with which we have to deal and should be watched closely. It is far more important than any other one symptom. Any prolonged irritation of the peritoneum from a rupture will cause nausea, vomiting, leukocytosis, fever, rapid pulse and the rest of the symptoms of peritonitis.

If the rupture has been extraperitoneal, there will be evidence of extravasation in the prevesical space. This usually takes place after twenty-four hours or is noticed after that period with subcutaneous induration, some slight tenderness and muscle resistance. Increased dullness is rather marked and as the hours go by the temperature is likely to rise, pulse rate increase and a leukocytosis develop. The edema may extend down to the penis and into the scrotum.

DIAGNOSIS

Various methods of diagnosis have been suggested, as catheterization of the urethra. However, the catheter frequently fails to pass the severed point of the urethra, usually close to the bladder. If only a small amount of urine is obtained which is blood tinged, it is almost conclusive evidence of a serious injury. Some surgeons use an injection of weak contrast solution by means of a catheter and look for extravasation in the roentgenogram. Others use injected air as recommended by Vaughn and Rudnick.

Young is very much opposed to any instrumentation, where there is a questionable rupture of the bladder. Infection is bound to follow. An extraperitoneal extravasation can spread posteriorly and can be felt through the rectum or may spread up as high as the kidney.

Necrosis is likely to follow in a short while. Following this we see the sequelae of infection, turning into cellulitis with gangrenous abscesses. Later those cases that recover will have fistulae, opening into rather a wide region.

TREATMENT

Treatment of rupture of the bladder should be naturally as early as possible. Old mortality rates were exceedingly high, figures being given as high as 90 per cent for intraperitoneal ruptures. Recent figures have reduced this considerably, due to the early drainage of the bladder. Mortality for the

Accident to Surg.											
Age	Sex	Occupation	Hours	Cause of Injury		Roentgenograms		Complications		Treatment	Results
1 I. B., 33	F.	Housewife	48	Run over by an automobile		Fracture left rami		Voided naturally,		Expectant	Peritonitis
2 L. L., 21	F.	Stenographer	18	Automobile collision		Multiple fracture		Osteomyelitis pelvis		Suprapubic cystostomy	Recovered
3 D. C., 17	M.	Coal miner	8	Crushed between coal cars		No fracture		Fluid in abdomen		Medical	Recovered
4 F. G., 16	F.	School girl	3	Automobile collision		Right rami splintered		Right pyonephrosis		Cystostomy, pelvic lavage	Recovered
5 W. D., 38	M.	Baker	1½	Automobile collision		Fracture of both rami		Shock		Suprapubic cystostomy	Recovered
6 S. H.	M.	Laborer	8	Crushed by tractor		Fracture of rami (2)		Peritonitis		Suprapubic drain	Death 6th day
7 K. N. 25	M.	Laborer	4	Crushed by tree		Fracture sup. and inf. rami bilat., right sacrum		Ruptured urethra		Suprapubic drain, urethroplasty	Recovered
8 A. H. 11	M.	School boy	5	Crushed back, cave in		Fracture both rami		Urine obstructed, catheterized, bloody		Suprapubic, sutured tear	Recovered
9 S. W. 20	M.	Logger	16	Log rolled over him		Fracture right rami, left displacement				Suprapubic cystostomy	Recovered
10 C. C. S. 45	M.	Logger	7	Straddle fall		Negative for fracture		Perineal abscess, stricture urethra		Suprapubic cystostomy	Recovered
11 D. O. 42	M.	Electrician	?	Fall from ladder 15 feet		Fracture of rami		Hydroneuters and nephrosis		Catheter drainage	Improved
12 L. E. 34	M.	Logger	3½	Caught between rolling logs		Fracture both rami		Blood in prevesical space, tear of urethra		Suprapubic cystostomy	Later perineal sect., 18 mo. nephrect. right, 2 renal calc.
13 O. S. 46	M.	Stevedore	8½	Fell 25 feet to deck		Fracture right ilium		Laceration on right kidney		Cystostomy, local anesthesia	Recovered
14 S. B. 12	F.	School girl	3	Thrown from automobile		Separation pubes		Rupt. bladder & rectum, incont. abscess of vagina		Repair vagina	Recovered
15 A. B., 22	F.	Student nurse	5	Automobile collision		Fracture both rami		none		Catheter	Recovered
16 M. T., 24	M.	Logger	72	Struck perineum, iron bar		Negative		Stricture urethra		Suprapub. & perineal sect.	Recovered
17 R. F. 34	M.	Brakeman	3	Jumped from speeder to train		Fracture rami-wide separation of pubes		Abscess perivesicle, fistula		Suprapubic cystostomy, perineal resection	Recovered
18 S. B., 53	M.	Logger	3½	Struck with peavy hook		Fract. right rami, ascend.		Fracture patella, none		Catheter	Recovered
19 F. S. 32	M.	Logger	4	Log rolled over him		Fracture, both rami		Abscess, stricture, urethral fistula		Suprapubic cystostomy, perineal section plastic	Recovered
20 W. S. 47	M.	Auto Mechanic	2 wks.	Fell off automobile		Fracture rami, ascending		Stricture, left pyonephrosis, perineal abscess		Suprapub. cystot. perineal drain, nephrect. left, bilat. epididymotomy (abscess)	Recovered (18 years)
21 H. B., 78	F.	Housewife				No fracture		Shock, infection		Cystostomy	Death, 51st day
22 R. D. M. 38			2	Full bladder, intoxicated, kicked in abdomen		No fracture		Peritonitis		Expectant	Death, 4th day, peritonitis
23 C. E. M., 22	M.	Student	10	Automobile collision				Vesical calculus		Cystostomy	Disch. 73rd hosp. day
24 E. W., 17	F.	Student	10	Automobile collision		Fract. rt. isch. & ramus		None		Cystostomy, cast	Disch. 21 hosp. day
25 S. W., 20	M.	Logger	10	Crushed by log		Fracture right ramus		None		Cystostomy, cast	Disch. 73 hosp. day
26 F. M., 17	F.	Student	13	Automobile collision		Fracture of both ischi		None		Cystostomy	Disch. 20 hosp. day
27 T. W., 70	F.	Housewife	2	Automobile collision		Fracture rami, bilateral		None		Expectant, cast	Discharged on 61st day
28 E. L. 69	M.	Laborer	4	Run over by automobile		Fracture right femur; fracture pelvis		Retropert. hemotoma, rect. fist., urethral strict.		Cystostomy	Discharged on 314th day, two readmissions

Table 1—Report of Cases of Ruptured Bladder.

first twenty-four hours, when surgical interference has been instituted within that time, lies somewhere under 20 per cent. After twenty-four hours the outcome is usually fatal. The first consideration in treatment is combatting of shock. The second is immediate opening of the bladder, using the suprapubic approach. The wound in the bladder should be closed and drainage instituted. Blood and urine should be drained from the peritoneal cavity. Institution of a retention catheter is never advisable. Where the urethra has been severed near the internal urethral orifice, the ends of the urethra should be approximated by passing a catheter over a retrograde sound.

Subsequent treatment is to keep the urethra open to a large caliber. Urinary infection also will have to be combatted. The subsequent course of these ruptures is long and arduous for both patient and surgeon. Wherever possible painful dilatations should be minimized and, if the resulting stricture is a tight one, anesthesia should be given for the passage of sounds. Otherwise the patient will refuse to submit to this painful process until the stricture has closed down to a point where dilation is almost impossible.

A report is presented of twenty-eight cases of ruptured bladder with essential features listed of each (table 1). A few case histories are given in more detail as illustrative of conditions common to all injuries of this character.

CASE REPORTS

Case 1. Mrs. I. B., November 13, 1923, was seen forty-eight hours after her accident. She had been knocked down and run over by an automobile. There was almost immediate, painful hematuria. Roentgenograms pictured a fracture of the descending rami of the pelvis, ischium and left pubis. The abdomen was distended. The temperature was 102°, pulse 100. Red blood cells appeared in the urine, pus cells and bacteria. There were tenderness and rigidity in the median line and over the pubes. Crepitus was felt in the left iliac region when the leg was moved. This patient died the third week after her accident of peritonitis. No operation had been performed.

Case 8. A. H. was an 11-year-old boy injured by a cave-in of earth. A heavy piece of rock crushed the pelvis. Five hours after injury he was admitted to Providence Hospital. Attempts to void produced a few drops of blood. There was tenderness over the abdomen. A rubber catheter was passed into the bladder and met no obstruction, 120 cc. of bloody urine trickled out under no pressure. Roentgenograms showed bilateral fracture of the ascending and descending rami of the pubes. Suprapubically there was no distention with slight tenderness. Five hours after injury a suprapubic drain was inserted. A transverse tear of the anterior wall above the vesical orifice was found. This tear was sutured. It is felt that in all doubtful cases suprapubic incision is good insurance.

Case 13. O. S. was 46 years of age, a stevedore. The patient fell seventy-five feet into the hold of the ship. Roent-

genograms showed a compound fracture of the right ilium. Suprapubic cystotomy was done under local anesthesia, eight hours after the accident. An extraperitoneal tear and blood from the right ureteral meatus were seen. The patient recovered.

Case 17. R. F., 34 years of age, was a brakeman on a logging train. He attempted a jump from a speeder to a moving train. In doing so he fell and sustained a fracture of the pelvis. He was unable to void, blood issuing from the urethra. Within three hours a suprapubic cystotomy was performed. The bladder was apparently cut off from the urethra at the outlet. Later an abscess of the right groin developed, opening into the inguinal canal. He was ill for months. Numerous dilatations of the urethra and attempts to close a sinus which appeared in the thigh were futile. Finally a combined suprapubic and perineal drainage of the bladder was done, the sinus was curetted and packed with vaseline gauze. Ultimately function was restored.

Case 20. W. S. was an auto mechanic of 47 years. This patient fell off the running board of a moving car, one wheel passing over the right hip. His abdomen was hard and tense for several days. The urine showed a few blood cells. Mild hematuria persisted. The patient became steadily worse. At this time he had pulse of 140 and temperature of 104°, and was in an extremely critical condition. A suprapubic cystotomy was done, relieving a large quantity of urine and pus which had burrowed into the pelvis and up along the psoas. A long history (eighteen years) of complications ensued, as stricture of the urethra, perineal abscesses, stricture of the ureter on the left side, renal and vesical calculi, pyonephrosis and nephrectomy. The patient now has a contracted bladder and a chronic, urinary infection.

Case 25. S. W., male, 20, occupation logger. This patient was admitted on August 7, 1933, at 10:00 p.m. by ambulance. He was injured by a log rolling down hill and pinning him to the ground. Roentgenograms showed fracture of the right ischium and descending ramus. There was considerable hematuria. The patient was operated on shortly after admission. There was a puncture wound of the superior, anterior wall; drainage was instituted. He was discharged on seventy-third hospital day.

CONCLUSIONS

This paper is a study of twenty-eight cases of ruptured bladder, reported in brief detail. Most of them were observed by the author. Definite conclusions from the data are presented.

Age incidence. The ages vary from 11 to 70 years, the average being 34 years. It will be seen that rupture occurs in the early part of life when individuals are more active.

Sex. In sex of reported cases, eighteen were males and ten females. Here, again, we are confronted with the greater activity of the male.

Occupation. Engagement in hazardous occupations, such as logging, railroading, electric work and stevedoring, increases the incidence of ruptured bladder in men and boys. Loggers account for 25 per cent; students comprise 25 per cent; housewives, riding as automobile passengers, accounted for 14 per cent and laborers made up 11 per cent. The balance was divided between stevedores, brake-

men, auto mechanics, coal miners, bakers, stenographers and electricians. Apparently being a student is almost as hazardous as being a logger.

Bladder injury. The most frequent agent in producing rupture of the bladder in this series of cases was fracture of the bony pelvis. In 85 per cent of these case reports such fractures were present. Over a thirteen-year period in a 300-bed hospital 113 cases of fracture of the pelvis were admitted with four deaths, a mortality of 3.5 per cent. Ten of these suffered a ruptured bladder or 9 per cent. These ruptured bladders had a mortality of 20 per cent.

Etiology. It is not surprising to find that 50 per cent of ruptured bladders were due to motor vehicle collisions and accidents. The increasing use of the automobile has been a great contributor to all types of serious injuries. It was noted with most interest that many of these accidents occurred after sundown and in early morning hours when visibility is at its poorest. In spite of steel bodies in passenger cars, the jamming forward of the driver's seat particularly resulted in pinning the occupants of the front seat against the dashboard or steering wheel.

One incident was noted, where out of four passengers in one car, three sustained fractured pelves. One fracture was caused by a tractor overturning and partly running over the operator. Next in the list of frequency of causes was crushed pelvis, due to rolling logs, and occurring to those working in the woods. This accounted for 18 per cent of the ruptured bladders. In a country so largely devoted to logging, this is not an uncommon accident. Blows were accountable for 14 per cent of the ruptured bladders. One was an incident in which the patient was imbibing in beer very freely and became intoxicated, fell to the floor and received a kick in the abdomen. Falls from a height accounted for 11 per cent. Most of these are in the nature of a straddle fall, breaking one of the rami of the pubis. Railway injuries accounted for 7 per cent, usually due to negligence.

Taking all cases, the average time between accident and the time at which surgery was employed was eleven hours. Few cases were allowed to go over several days without disastrous results.

If there is any one lesson taught by the study of these cases, it is the value of early suprapubic cystotomy, once the diagnosis has been made. Furthermore, in all doubtful cases a cystotomy is excellent insurance against small tears in the bladder which do not give any outstanding symptoms.

Four deaths occurred in this series. One death was in a woman of thirty-eight years who had been kicked in the abdomen with her bladder full. She was admitted to the hospital two hours after injury. Roentgenograms were taken and no surgery performed. She was treated by catheterization. She died on the fourth day from peritonitis. It might have been much better to have explored the abdomen early. Sometimes the abdomen is quite soft at time of injury and symptoms are very deceiving. Not until rigidity has developed is the surgeon aware of peritonitis. Not infrequently one can catheterize the bladder, obtain clear urine and still have a small rupture in the viscus.

The second death was in a woman of seventy-eight who had sustained a fracture of the pelvis. She was admitted four hours following the accident, at which time a cystotomy was done. She died on the fifty-first hospital day, probably due to infection, although no autopsy was recorded. Her age also was against her recovery.

The third death occurred in a male of forty-six years, where both rami were fractured without apparent displacement. Eight hours after the injury a suprapubic cystotomy was performed and a drain instituted. Peritonitis developed in this patient and he died on the sixth postoperative day.

Sometimes the puncture might be multiple and only one of them found. It is well to be sure that the dome of the bladder is not injured.

The fourth death occurred in a woman of forty-three years who was admitted forty-eight hours after the accident. She voided naturally, was treated expectantly by catheterization. Roentgenograms showed a fracture of the left ramus. She died on the nineteenth hospital day and diagnosis of peritonitis was confirmed by autopsy. This gives a death rate of 14.4 per cent.

Complications. The commonest complications were pyelonephrosis, perineal abscess from hematoma, peritonitis, osteomyelitis, kidney laceration, rupture of the rectum, vesical calculus. The long standing drainage of the bladder, infection and the decubitus position are all contributory to a slow convalescence.

Rupture of the urinary bladder is not a common accident but it does occur and should always be kept in mind. Early diagnosis and early surgical treatment will give a much lower mortality, as records of recent years show delay in diagnosis is usually dangerous or fatal.

INDUCED GONORRHEA

ROGER A. NOLAN, M.D.

Commander, Medical Corps, U. S. Navy

SAN DIEGO, CALIF.

As preface to this paper it would not be possible to write anything more significant than to quote the introduction to "The Prophylaxis of Venereal Disease" by Milspaugh, published in U.S. Naval Medical Bulletin January, 1936.

"An Annapolis graduate assured me that while at the academy he was given an infallible formula for venereal prophylaxis, namely, to remain chaste. Since so eminent a syphlographer as J. H. Stokes states 'the physician fails in both duty and privilege, if he does not swing what influence he can in behalf of intellectual and spiritual rather than mechanical and chemical preventives of syphilis and gonorrhea,' I invariably exhort particularly young recruits to rely upon the above advice.

"Nevertheless, centuries of experience denote that the majority of men are not voluntarily and consistently continent."

When the intellectual and spiritual processes fail under influences which need not be enumerated here, and the legal safeguards against promiscuity prove inadequate, it is necessary to resort to certain forms of instruction, and to mechanical and chemical means for prevention of the destructive consequence of illicit exposure to venereal infection. That present methods of instructions in prophylaxis are ineffective is the common experience of medical officers of the armed services. The methods used are inadequate for prevention of gonorrhea, and in practice they are delayed and incomplete.

In prevention of gonorrhea a careful study of chemical methods of prophylaxis has demonstrated the urgent need for better management and proper teaching of prophylactic sequence following illicit exposure. To attain this necessary objective, certain basic principles must be considered, since at the present time these are either ignored or confused. As the result of this, many males are victims of gonorrhea induced through faulty attempts at prophylaxis.

We have observed that this infection occurs very frequently in individuals who, following exposure, use the single chemical agent found in the common variety of venereal prophylactic package, known as compound calomel ointment or calomel ointment n. f. While this precaution is highly effective in the antisyphilitic phase of prophylaxis, if taken promptly and used thoroughly, it is of no value in protecting the individual from gonorrhea. Furthermore, self-induction of infection does occur in the following manner: As the ointment is injected into the urethra and, if infectious material is at the meatal opening, this material precedes the column of ointment into the canal to a depth of from one to two

inches, thereby introducing the infectious agent of gonorrhea into a nonprotected area, resulting in an acute anterior urethritis. As calomel ointment is not a preventive against gonorrhea, the harm from this procedure can be readily pictured, for in our experience with many cases of gonorrhea, the prophylactic history distinctly reveals that the patient had taken the precaution according to instructions contained in the allegedly protective package.

The fatty base of calomel ointment, which is immiscible (or slowly miscible) with the aqueous fluids bathing the meatus, acts merely as a propellant to drive these fluids out of reach of the medicament which, being insoluble, may act slowly and only on contact with the organism; furthermore, the fatty base does envelop and protect the infectious agent against the effect of any soluble and antigonococcal medicament which may be used later.

Through some misunderstanding, those interested outside of the armed services have a false idea of chemical venereal prophylaxis as used in the navy. The use of but one phase of the needed protective sequence has resulted in the sale of this phase alone as a complete prophylaxis by manufacturers. The laity believe that these products have a two-fold prophylactic action, that is, antigonococcal and antisyphilitic. This impression in our experience is definitely wrong and misleading.

Chemical prophylaxis as available in the navy has two distinct phases: (1) Ointment mercurous chloride in collapsible tubes carried by the person on leave. This item is misleading, designated as a "sanitube." It has no known or recognized value against gonorrhea, but may be used effectively to protect against syphilitic infection. (2) The twenty-four hour availability at a prophylactic station on board or at a base of a silver protein solution with sterile syringe for injecting into the urethra. This is the chemical means used for protection against gonorrhea.

In simple parlance, wide experience has shown that a shot gun with two barrels, one containing silver and the mercury are essential for chemical protection against the two major and common venereal diseases, each medicinal bullet having a specific action when properly applied, timed and fired in correct or proper sequence. Various attempts have been made to modify the mercurial prophylactic materials, so that a single application may serve both purposes. The addition of phenolic substances or of soluble mercury compounds to calomel ointment have not overcome the inherent deficiencies of this preparation as a preventive of gonorrhea.

While it is possible that in the future some preparation can be made to serve the double purpose required, the present need for separate use of silver and mercury must be met, since failure to do so effectively is proving costly in terms of public health.

The mercurial preparation used effectively in our survey was the simple calomel ointment of the National Formulary, which also met certain requirements of particle size and distribution in the fatty base. The time element, the sequence and auxiliary precautions are essential and can be provided for in simple and effective instructions, as will be shown later.

Solutions of silver preparations commonly used are of the protein type, and are not available to the man on leave in portable form. Furthermore, the action of this class of compounds is slow and varies with the age of the solution. A highly desirable factor for the use of silver for this purpose is the speed with which ionized silver salts act. Therefore, since silver nitrate is too caustic, it was decided to use silver picrate in the form of a 0.5 per cent jelly in a collapsible tube, placing it alongside the calomel tube in a simple unobtrusive package.

The selection of silver picrate for this purpose was based on our own extensive experience with this drug in many cases of anterior urethritis. An independent study has been reported upon and published by Knight and Shelanski¹.

This silver preparation has been used by us in 940 venereally exposed cases over two periods during an interval of eight months, each case using this preparation prior to calomel ointment. This extensive survey was supervised, and each individual's case history of exposure taken at the time of reporting for prophylaxis. *No cases of specific or nonspecific urethritis have been found in this series of exposures.* In the same time interval thirty-one men exposed to the same sources of infection developed acute gonorrhea, each case giving a history of having used a standard prophylactic tube immediately following exposure, and a delayed treatment with silver protein upon return to the base. The highly infectious character of the district, in which it was possible to obtain this perfect record of prophylaxis as well as the above evidence of "induced gonorrhea" from calomel ointment, may be seen in the following table of infections recorded during the same period.

	Cases of gonorrhea	Cases of syphilis	Cases of chancroid
No prophylaxis.....	40	38	8
Prophylaxis delayed until return to base.....	32	7	10
Spot prophylaxis A (sanitube) only	62	6	9
Spot prophylaxis A (sanitube) followed by prophylaxis at base.....	31	4	3

In another series, reported to the writer in a totally unrelated institution, twenty-four males exposed themselves to several females, known to be infected with gonorrhea as demonstrated either by positive smears and cultures or cultures alone. Immediately following exposure (and after urination) a jelly containing 0.5 per cent silver picrate was instilled into the anterior urethra, and also spread over the glans penis, corona and external penis. The males presented themselves for examination during periods ranging from four to fourteen days after exposure. They were examined by urethral smears and cultures taken by means of a sterile platinum loop inserted into the urethra. A follow-up for three to six months following the first exposure, during which periods additional exposures occurred (in several instances as many as fifteen, in all of which silver picrate alone was used) showed no evidence of urethritis due to any cause, upon examination at weekly intervals following each exposure. The females to whom these males exposed themselves were known to have conveyed gonorrheal infections to eight other males who used no prophylaxis.

This evidence for silver picrate in prophylaxis against gonorrhea affords a means for eliminating the ineffective and sometimes dangerous instillation of calomel ointment into the urethra. Therefore, the procedure finally adopted for effective prophylaxis includes the following sequence:

1. Urination immediately after exposure.
2. Washing thoroughly with soap and water.
3. Intraurethral introduction of silver picrate jelly.
4. Intrameatal introduction of calomel ointment.
5. Thorough inunction with calomel ointment of head, subforeskin, shaft and adjoining areas.

The promptness with which these complete preventive measures are carried out controls the incidence of infection. Therefore, all materials must be available on the spot of exposure in portable form, i.e., the soap, the silver and the mercury. A compact package containing adequate directions in simple language, soap, silver picrate and calomel in suitable form has been found in our series of investigations to eliminate the shortcomings of the simple calomel tube, and particularly the danger of self-induced gonorrhea.

1. Knight, F. and Shelanski, N. A.: Treatment of Acute Anterior Urethritis with Silver Picrate. *Am. J. Syph., Gonorr. & Ven. Dis.* 23:201-206, March, 1939.

HYPERTENSION*

NEWELL C. GILBERT, M. D.

CHICAGO, ILL.

(CONCLUDED)

It is impossible to overlook evidence pointing to the possibility of an unstable central nervous system having something to do with the hypertension. Daily, in hypertension subjects, we see wide fluctuations of blood pressure consequent upon various nervous stimuli which are greater than in those with normal blood pressure.

We know that certain lesions of the central nervous system can produce hypertension, but only a very rare case indeed is the result of such lesion. There has been a great deal of experimental evidence to show that certain central lesions can produce a persistent elevation in blood pressure. Most of this has not been as conclusive as has been the work in favor of some chemical agent, however.

A great many of our patients with hypertension show evidence of some disorder of the autonomic system, manifested in various ways. That this might result in increased vascular tone seems reasonable. But it has been shown, as mentioned previously, that the tone of the peripheral vessels is not increased in essential hypertension. On the other hand, Engle and Binger²³ have shown an increased response to acetyl-beta-methyl-choline in the arteries of certain hypertensive cases, and suggest that in such cases there may be a deficient acetyl-beta-methyl-choline mechanism. The effect of various operations upon the sympathetic nervous system, even if the results are only temporary, may suggest that some overaction of the autonomic system is involved. It is too early to evaluate these operations now. It is possible that they only remove a normal vasomotor tone, or that they increase the blood flow through a partially ischemic kidney.

Just what part psychic factors may play in persistent hypertension we do not know. Probably none, as far as primary origin is concerned. But we do know that psychic factors affect the blood pressure temporarily, and are of enough clinical importance to warrant careful attention in our treatment of such cases.

There are a few factors of varying importance in hypertension which might be mentioned briefly. Age and heredity are, of course, factors. The suprarenal glands may be a factor in some cases,

as in medullary tumors which are not frequent. But with the usual type of hypertension no connection can be shown, attractive as the theory is. The same applies to the pituitary gland, in spite of the fact that some pituitary tumors are associated with hypertension. Lead poisoning is a factor and is possibly more important than has been supposed. Syphilis is not a factor.

The question of diet as a factor in producing hypertension has always been of interest, and still is. Meat is usually singled out as the offending food. Eskimos live on a carnivorous diet, yet Thomas²⁴ found their blood pressure to be remarkably close to normal. Steffanson lived upon a meat diet for as long as six years at a time. To make sure that his out-of-door life was not a factor, he, with a companion, Anderson, remained upon an exclusive meat diet in New York City, for a year under constant observation with metabolic studies by a committee of physicians especially interested in nutrition. They remained perfectly well, with no elevation in blood pressure. And hypertension does occur in vegetarians. The same negative results apply to fats as to carbohydrates.

But what we have said in regard to qualitative does not apply to quantitative diet. Too liberal a diet of any kind may increase blood pressure. It tends to produce overweight and obesity and high blood pressure are very frequently associated.

Alcohol used even moderately may tend to obesity, but aside from this, it probably has no effect on the production of hypertension. In experiments in nonsmokers, tobacco will temporarily raise the blood pressure, but in those accustomed to smoking there is little or no effect one way or the other. Tobacco certainly is not one of the causative factors.

Focal infections have, of course, been held responsible as has intestinal stasis, and so-called autointoxication. Carious teeth, infected tonsils, etc. are found in hypertensive cases, as they are in normals. There is no reason for assuming that they have influence in causing the hypertension and there certainly is no reason for assuming that their surgical elimination will also eliminate the hypertension. An exception would be those cases in which a too enthusiastic surgical interference has eliminated the patient altogether.

Any prognosis must certainly be very guarded indeed. Whatever ideas you may have are best kept to yourself. Except where there is evidence of very definite cardiac or kidney pathology, you can

23. Engle, D. E. and Binger, M. W.: Blood Pressure Response of Hypertensive Patients to Acetyl-beta-methyl-choline. Proc. Staff Meet. Mayo Clinic, 14:341-343, May 31, 1939.

24. Thomas, W. A.: Health of Carnivorous Race. J. A. M. A., 88:1559-1560, May 14, 1927.

not have any very definite ideas. You know that the prognosis is not as good as in cases of normal pressure, and that it is worse with the higher levels of blood pressure. But even some of these latter do surprisingly well.

In discussion of treatment, I would like to first return to the cases where the hypertension is of renal origin. The great majority of such cases are cases of chronic glomerular nephritis. I am not going to tell you how to cure this disease. But if more strict care were given to acute glomerular nephritis, such as so frequently follows scarlet fever, there certainly would be a very decided decrease in chronic cases. Acute glomerular nephritis occurs with very mild infections, and is not infrequently missed in its milder form. True enough, many of these milder forms subside and revert to normal even without attention. But, also, a great many do not. Every case of an acute infection should be watched for nephritis. And it is surprising how many do show some involvement when observed closely.

It is important that even a slight upper respiratory infection should be watched. If acute nephritis does occur, it always tends to recover with rest and time and care. Without these, there is always some chance of its becoming chronic. The patient should be kept in bed or quiet, until the urine has returned to normal, until the sedimentation rate is normal, and if the patient is a child, I like McCullough's ideas of keeping him quiet and in bed until he is also gaining weight, a course adhered to in the treatment of rheumatic fever.

In a like way, early and adequate diagnosis of cases of cystitis and pyelitis will obviate many cases of pyelonephritis. The same applies to all urinary tract infections, and to bladder retention.

When we turn to treatment of essential hypertension cases, where we do not have a known basis for the condition, anything which we do must of necessity be purely symptomatic. And whatever we do must be done carefully, watchfully and critically, so that we may avoid any by-effects which might be harmful to the patient. A few years ago, when a very distinguished London physician was visiting here, some one asked him what the greatest danger was in hypertension. His reply was, "the greatest danger is in someone finding it out." Certainly many patients are overtreated.

A great deal can be done by very simple measures. And most of all by the doctor himself taking the matter quietly and easily and reassuringly. I would like to quote here from a little essay on the "Re-

lation of the Physician to the Sick," written by Christopher William Hufeland, about 100 years ago, which says much that I would like to say better than I can say it here:

"He (the doctor) must not forget that his patient looks upon him as judge of life and death, and anxiously scrutinizes the glances of his eyes, and the gay or sad features of his countenance, in order to discover his sentence. Is it not a fact that fear, especially of death, anxiety and fright, are deadly poisons, and that they directly paralyze the vital power; while hope and courage are the most efficacious restoratives, frequently surpassing all medicines, nay, without which even the best medicines are unavailing? The Physician, therefore, must be careful to preserve hope and courage in the patient's mind, represent his case in a favorable light, conceal all danger from him, and the more serious it becomes, show a more cheerful appearance; least of all should he betray uncertainty or irresolution, even though there be cause for doubt. He can guard himself from the suspicion of not having fully appreciated the nature of the case, by giving a true description of the patient's situation to the relatives, and, if they be fickle and negligent, by stating it rather darker than lighter. Hence it will appear how blameable is the conduct of those Physicians, who do not hesitate to announce to the sick the danger, even fatality of their situation, and how injudiciously those relatives act, who desire the Physician to do so. To announce death is to give death, which is never the business of him who is employed to save life."

High blood pressure is written about and talked about to the laity altogether too much. The patient comes to you with a fear of high blood pressure and a long train of symptoms which quite occasionally begin with the chance discovery of an elevation of blood pressure. Your first task is reassurance, but given in such a way that it will not induce carelessness on the patient's part in the few fairly simple points which you will require of him in the management of his case.

As far as medical treatment goes, the probability is that he will be much better off without any. Whether you tell him what his blood pressure is or not, is a matter of your judgment and the individual patient. Frequently, not telling a patient, or deceiving him, only adds to his alarm.

A vacation is a very good start in the way of treatment, but a quiet, restful vacation. Frequent quiet week-ends during the year are of great help. Hours of work should be adjusted when possible so as to admit of more rest and of more leisurely meals. It may be necessary that the patient's means of amusement and recreation be guided in to more restful channels. Moderate exercise in moderate amounts should usually be encouraged.

The diet should be an ordinary, sensible, well-balanced one. The only point in diet, as in every other detail of daily life, is moderation. And I might add rest before meals, a quiet meal of digestible food eaten leisurely, and rest after meals. There is no possible reason for a meat-free diet in most cases. Every so often one sees a patient with

edema due to low blood protein following a meat-free diet. Some advice as to the diet quantitatively may be necessary, and if the patient is overweight, the diet should be adjusted so as to maintain him within normal limits, if this can be done without undue discomfort. In some obese people, a diet too low in calories may do harm.

Personally I see no reason for the restriction of sodium chloride, granted that there are no kidney or cardiac complications which contraindicate its use, and that its use is moderate.

What you tell the patient in regard to alcohol and tobacco is a matter of your judgment and the individual patient. Again, it is a question of moderation. Tea and coffee are not contraindicated unless there is definite evidence of increased nervousness with their use.

In regard to symptomatic treatment, a wide choice of medical agents is offered. Of many, it may be said that their greatest blessing lies in the fact that they do not lower blood pressure, and do not harm in other ways. The blood pressure must be high to be adequate. If you know how to reduce the peripheral resistance, well and good. Many of the therapeutic agents are, professedly at least, vasodilators.

In some cases, venesection is of very real value. I remember being told by Dr. Preble in my early days that after one venesection many patients would experience so much comfort that they would return and ask for another. And they frequently do. In some, the blood pressure may remain at a lower level for a matter of weeks. In others, the effect upon blood pressure is negligible, but in many of these there is a symptomatic improvement as regards headache, giddiness and so on. It is not a matter of reducing blood pressure by reducing blood volume, for the volume is made up promptly. If the hypertension is due to a pressor substance, and the concentration of this substance in the blood is reduced by venesection, it is a valuable procedure. I feel that of all measures it is the most worth trying. Blood values are made up promptly, and it can be repeated at intervals.

Good results are reported from the use of sulfo-cyanates for their vasodilator effect. The patient should be watched carefully, however, to guard against untoward results. They should never be used without checking the thiocyanate level in the blood, as advised by Barker²⁵.

Sedatives, such as phenobarbital or others of the series, are very frequently of value. It is our custom to use small enough doses so as to produce no noticeable effect as to sleepiness, but just enough to quiet the nerves. Their use alone may have a favorable effect upon the blood pressure.

Nitrates and nitrites are vasodilators, but are not suited for constant administration. As far as I have observed, they are of doubtful value.

In some cases, during the menopause, the use of estrogenic substances may be of symptomatic value. Tissue extracts are highly recommended by the manufacturers and are vasodilators, and the value too slight to be worth the effort.

Extract of watermelon seeds, garlic and numberless other products are used, without known good results. Several years ago Theoharri²⁶ of Budapest recommended the use of the alkaloid theophyllin, preferring this preparation because of its slow absorption and more constant action. He reported good results in hypertension, consequent upon the vasodilator effect of the drug. Fahr²⁷ has used theophyllin-ethylene-diamine over a long period of time with good results both as to blood pressure and, as to deferring cardiac complications.

I feel as Fahr does, that the purine base diuretics are of great value in hypertension. They are mild peripheral vasodilators and may or may not reduce blood pressure slightly. But they are all coronary vasodilators, and an increased blood supply to the hypertrophied heart muscle may help defer heart failure and relieve cardiac insufficiency.

A brief summary of hypertension and its implications must of necessity be incomplete, and much has been left unsaid. Surgical treatment I have omitted altogether. It is too early as yet to pass judgment upon it one way or the other. And you had best hear of it from some one more favorably disposed.

Whatever we do for our patients with hypertension, we must be sure that it does not interfere with normal physiologic processes, or with a normal physiologic balance. We must know what we are doing and why, as far as possible, before we do anything. We must be careful neither to say or do too much. I remember an observation made by an old Indiana doctor who was a philosopher as well as a wise physician; "If I would only do just as much as I know and no more, I would be a very good doctor."

25. Barker, M. H.: Blood Cyanates in Treatment of Hypertension. *J. A. M. A.*, 106: 762-767, March 7, 1936.
Parker, M. H.: Use of Cyanates in Treatment of Hypertension. *Wisconsin M. J.*, 36:28-32, Jan., 1937.
Wald, M. H., Lindberg, H. A. and Barker, M. H.: Toxic Manifestations of Theocyanates. *J. A. M. A.*, 112:1120-1124, March 25, 1939.

26. Theoharri, A.: La Theocine Dans L'Traitement d' Hypertension Arterielle et L'Access Angineux. *Arch. de Mal du Coeur.*, 16:481, 1923.

27. Fahr, G.: Heart in Hypertension. *J. A. M. A.*, 105:1396-1400, Nov. 2, 1935. Personal Communication.

FLORA AND POLLEN SURVEYS OF SEATTLE AND VICINITY

JAMES E. STROH, M.D.

SEATTLE, WASH.

Pollen counts are always interesting and enlightening but to be of any value it is necessary to do them according to certain standards and set rules. For my work a frame five and a half feet tall, with a covering to protect the slide from rain and sunshine, is set out on top of the Cobb Building. This building is eleven stories in height and is in the business district of the city. For this reason the counts are lower than they would be, if the slide were exposed in a residential section. The slide is set out for a twenty-four hour period, being changed each morning between eight and nine o'clock. This is designated the count for the preceding day.

The slide is the ordinary laboratory slide measuring one by three inches. It is best covered thinly with a coat of plain white vaseline. Oil of cedar may be used. I have also used a specially prepared glycerine jelly, containing gelatine 14 gm., glycerine 84 cc., phenol 2 gm., water 90 cc., and methyl green to color. This gives the pollen grains a bluish tinge to a deep blue color so they may be more easily recognized under the microscope but detail for identification is destroyed. When slide is collected a drop of oil of cedar is put on and a cover slip applied.

With a 10x objective and a 10x eye piece the slide is examined, making five trips across the slide. This consists of a unit slide area 1.8 sq. cm. and represents the pollen count. This was standardized by Mr. O.C. Durham, chief botanist for Abbott Laboratories, because it represents the approximate number of ragweed pollen grains per cubic yard in twenty-four hours of slide exposure. By using this standard these counts are comparable to previously published counts, since about 90 per cent of the figures in print are Durham's. By careful study one might distinguish most of the tree pollens, but it is impossible to distinguish all of the grass pollens.

In this vicinity the hazelnut (*Corylus californica*) and willow (*Salix scoleriana*) start pollinating about February 1 (fig. 1.) *Salix lasiandra* and *Salix sitchensis* are not prevalent. The willow is peculiar inasmuch as it has separate male and female trees (dioecious), the others having the pistillate and staminate flowers on the same tree (monoecious). The willow is partially insect borne and not a serious offender. Also, pollination during the rainy season prevents a concentration of pollen in the atmosphere, and the count remains low.

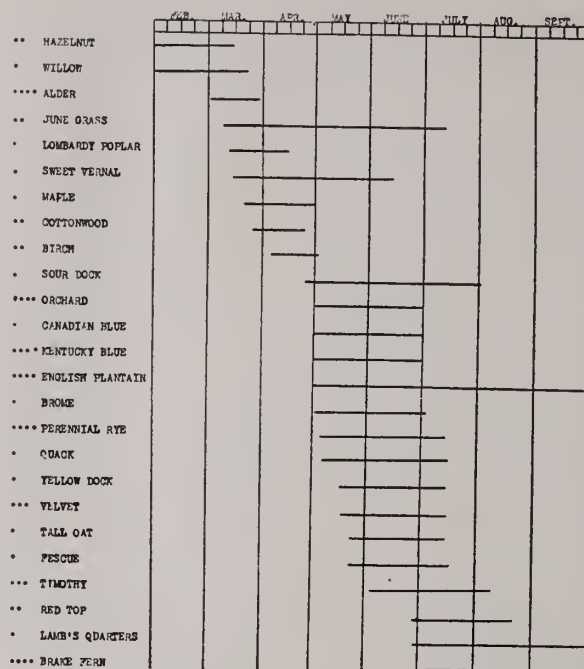


Fig. 1. Pollinating dates in Seattle: Asterisks indicate relative pollen concentration.

About the first of March the alder starts pollinating and, due to its distribution, quantity of pollen shed and potency, it becomes our most serious tree offender. It will reach its peak count between the tenth and twentieth of March (fig. 2) and in warm clear weather a count of 1000 or more may be reached which was the case in 1938, when on March 10 the count rose to 1100 (fig. 2). At this time of the year I have seen hay fever patients with only alder sensitivity and patients in a state of status asthmaticus. This tree is soon followed by the elm (*Elmus*), which is not very prevalent, and the Lombardy poplar (*Populus nigra*) species.

Our maple (*Acer macrophyllum*) probably causes trouble only to those maple-sensitive patients who live near it. Our ornamental red maple (*Acer rubrum*) has a sweet odored flower and is probably wholly insect borne. The last of March the large cottonwood (*Populus tricoarpa*) begins to pollinate. The aspen (*P. tremuloides*) is an introduced species and not very prevalent. In the early part of April our birch (*Betula pendula*) pollinates and is next to alder as a tree offender. The oak (*Quercus garryana*) and sycamore (*Plantanus acerifolia*) appear only in scattered areas throughout the city and the ash (*Fraxinus oregana*) is more prevalent over the south of the city. I do not consider these as serious offenders.

Our grass pollen charts are interesting for the past two years because of the marked difference in

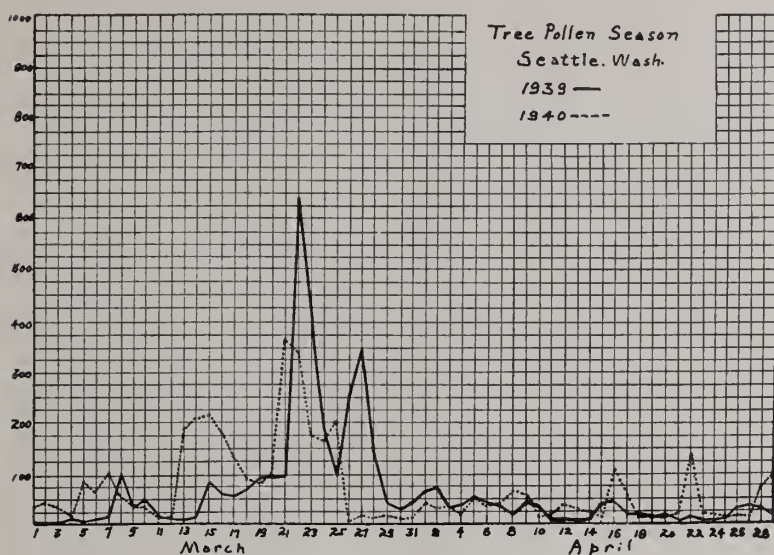


Fig. 2. Tree pollen season in Seattle.

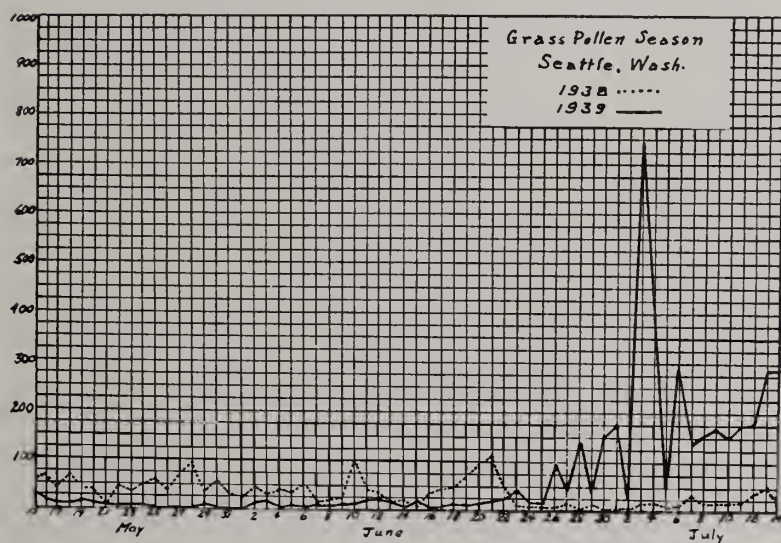


Fig. 3. Grass pollen season in Seattle.

climatic conditions for these two seasons. In 1938 our rainfall after April 15 was practically nil, consequently no pollen peak was reached. However, in 1939 it rained every day of June, the weather clearing with rather high wind which immediately brought out an abundance of pollen. The average for these two seasons would be near normal (fig 3.)

We have two grasses that grow rather abundantly and both have a fairly potent pollen that are pollinating by April 1, namely, (*Poa annua*) blue grass and sweet vernal (*Anthoxanthum odoratum*.) The latter is the one grass that has a very pleasant sweet odor. The other grasses initiate our true grass season about May 15, reaching their height the early part of June and fading about July 15. Many pollinate in small quantities until October. Canada blue grass (*Poacompressa*), rough blue grass (*Poa trivialis*), and Kentucky blue grass (*Poa pratensis*)

start at this time. The latter is one of our widely distributed grasses and a major offender.

English plantain (*Plantago lanceolata*), botanically a weed, starts at this time. Like other weeds it is not positive as often as the grasses, but is very potent and can be the only offender in some cases. On testing it is positive only about 50 per cent as often as the common grasses.¹ Since there is no cross desensitization with the grasses, I feel that many of these plantain cases are undertreated. It is widely distributed and will pollinate until late fall. Greater plantain (*Plantago major*) is rather scarce. Quack (*Agropyron repens*) or wheat grass, perennial rye (*Lolium perenne*), and Italian rye (*Lolium multiflorum*) also make their introduction at this time. The other ryes such as *Elymus hirsutus*, *Elymus glaucus*, *Elymops millis*, and *Elymus canadensis* are not as abundant but will likely become more important in the future.

Common names mean very little in designating a certain grass and this is particularly true of the bromes, also called chess and cheat. We have the following species: *Bromus sterilis*, *Bromus mollis*, *Bromus marginatus*, *Bromus carinatus*, *Bromus inermis*, *Bromus*

rigidus, *Bromus secalinus*, *Bromus tectorum*, *Bromus ciliatus* and *Bromus racemosus*. These are fairly common and are on the increase. Orchard (*Dactylis glomerata*) is very widely distributed and bears one of our most potent pollens. Tall oat (*Arrhenatherum elatius*) appears as large plumes along the graded roadsides and is on the increase. Velvet (*Holcus lanatus*) is rather a showy grass with its silvery colored leaves and is one of our chief offenders. Smooth velvet (*Holcus mollis*) is sparsely distributed.

Timothy (*Phleum pratense*) and most of the fescues start pollinating about July 1. We have many of the fescues, most of them without common names: namely, *Festuca myuros*, *Festuca subulata*, *Festuca octoflora*, *Festuca dertonensis*, *Festuca elatior*, *Festuca ovina* and *Festuca rubra*. *Festuca*

1. Statistics given on testing represents average from 75 cases seen in King County Hospital Allergy Clinic and 75 cases taken from the records of private patients.

elator and *Festuca dertonensis* are probably the most important of this group. The barleys, *Hordeum murinum*, *Hordeum jubatum* and *Hordeum nodosum*, are flowering at this time, but the quantity of pollen shed is so small that they cannot be considered serious offenders. Crested dogtail (*Cynosurus cristatus*) and Kohler's grass (*Kohleria cristata*) are on the increase and no doubt will become more important.

Red top (*Agrostis alba*) and bent grass (*Agrostis maritima* and *Agrostis tenuis*) start pollinating the latter part of June. It is not unusual to see a field that was silvery in color from velvet become a brownish red a few weeks later due to red top, giving the impression that the former grass has dried and gone to seed. Other minor grasses belonging to this genus are the creeping bent (*Agrostis palustris*), water bent (*Agrostis verticellata*) and spike red top (*Agrostis exarata*). Other grasses found which are of minor importance are slender hair grass (*Deschampsia elongata*), tufted hair grass (*Deschampsia calspitosa*), annual hair grass (*Deschampsia danthanoids*), rabbit's foot grass (*Popypogon monspeliensis*), Northern manna grass (*Glyceria borealis*), rice cut grass (*Leersia argyroides*), silver hair grass (*Aira caryophyllis*) and crab grass (*Digitaria sanguinalis*) which looks like the common Bermuda grass of the South. It is doubtful if our common sedge (*Carex*) or rush (*Juncus*) possess hay fever excitants.

Our weed pollen season is of minor importance as compared to our other seasons. This is the direct opposite of the fall season in other parts of the country, where the ragweed is such an obstinate offender. Our climate is not conducive to weed growth, since the plants cannot reach maturity and ripen their seeds. Yellow dock (*Rumex crispus*), bitter dock (*Rumex obtusifolia*) and sheep sorrel (*Rumex acetosella*) have a wide distribution but are not so abundant. These three pollinate along with the grasses in May and June, but I get few reactions to these in testing. Lamb's quarters (*Chenopodium album*), pigweed (*Amaranthus retroflex*) and mugwort (*Artemisia vulgaris* and *Artemisia heterophylla*) give strongly positive reactions at times and can be serious offenders. The marsh elder (*Iva xanthifolia*), nettle (*Urtica lyalli*) and cockle burr (*Xanthium species*) do grow here, but rarely do I get a positive reaction.

The ferns shed an abundance of spores and are found growing everywhere. The total spore count almost equals that of the grasses. However, I can say that I have never seen a true case of fern spore

hay fever. The common brake or bracken (*Pteridium aquilinum*) produces over 90 per cent of the spores found. This and the sword fern (*Polystichum munitum*) spores are easily distinguished from other pollen on the slide. Other species are not common.

It is a known fact that fungi can be grown from almost any house at any time, but our atmosphere never gets the degree of contamination that is reached in the middle west. Some of the allergists along the Pacific Coast have stopped testing for fungi and in personal conversation with O. C. Durham he expressed the opinion that according to his findings these were of very little importance



Fig. 4. Durham's nationwide report of certain fungi.

in this district. In Durham's paper on the incidence of *Alternaria*,² he reports only three *Alternaria* were found in Seattle on his slides for the year 1933, and on his nationwide report (fig. 4) for 1938³ showed Seattle with an average season total of 28 *Alternarias* and 610 *Hormodendrum* species as compared to 33,380 *Alternaria* and 30,836 *Hormodendrum* species for Moorhead, Minnesota, with a maximum daily count of 3,650 and 3,276 respectively.

Fungi spores are very small and most allergists have thought that slide exposure was not the best means of demonstrating their presence. For this reason culture plates were exposed daily for fifteen minutes and allowed to grow at room temperature for a period of five days, if they appeared sterile. By this method we were able to obtain 555 colonies in July, 1939, and 355 colonies during August, 1939. Fifty-five per cent of these colonies were of the *Hormodendrum* species, and 23 per cent of the *Alternaria* species. Other molds found were *Aspergillus* species, *Cephalosporium* species, *Clado-*

2. Durham, O. C.: Incidence of Air Borne Fungus Spores. *J. Allergy*, 8:480, 1937.

3. Durham, O. C.: Incidence of Air Borne Fungus Spores. *J. Allergy*, 10:40, 1938.

sporium species, *Monilia sitophila*, *Mucor* species, *Penicillium* species, *Rhizopus nigricans*, *Trichoderma koningi* and *Fusarium*. There were 415 colonies of yeast in July and 84 colonies in August. Practically all patients are tested for fungi, but I get very few positive reactions. Almost invariably those reacting strongly will give a history of clinical sensitivity.*

743 Stimson Bldg.

*I wish to express my indebtedness to Dr. G. N. Jones, formerly in charge of the University of Washington Herbarium, for the identification of numerous plants; to Miss Carolyn Smith of the University of Washington Botany Department and Mrs. J. E. Stroh for their numerous field trips; to the other members of the University of Washington Botany Department for botanical information received and to Miss Veda Archibald for her work on fungi and pollen counts done in my laboratory.

CONGENITAL OBSTRUCTION OF DUODENUM

CORRECTION BY DUODENOJEJUNOSTOMY

EUGENE B. POTTER, M.D.

SEATTLE, WASH.

Although congenital duodenal obstruction is not a rare lesion, the clinical recognition of the condition and a successful surgical correction probably justify a report. Many of these infants die before the correct diagnosis can be made. Ladd,¹ who in 1932 and 1933 presented a large group of such cases, stated that the frequency with which the condition was met in adult life indicated a high mortality without surgical interference. Braun² found 118 cases of congenital intestinal occlusion among 1,980,304 living newborn infants in Germany. Sheldon³ found twenty-six cases of congenital atresia and stenosis among 6000 autopsies at the Hospital for Sick Children in London. However, Ernst,⁴ who is credited with having performed the first duodenojejunosomy for relief of congenital obstruction of the duodenum on an eleven-day-old boy, reported finding only two cases of congenital atresia among 41,000 children at the Royal Lying-In Hospital in Copenhagen.

Clinical recognition has become increasingly frequent as evidenced by the number of reports published since Ernst first performed duodenoenterosomy in 1914. Kellogg and Kellogg⁵ reported forty-one cases with duodenojejunosomy as the method

of treatment. Ladd reported sixty cases from the Children's Hospital of Boston. Webb and Wangenstein⁶ reported two cases that had been under their observation, together with fifteen additional cases from the records of the Department of Pathology of the University of Minnesota. Morton and Jones,⁷ in a comprehensive survey of the subject, presented eleven cases of obstruction about the mesentery in infants; all of this group were operated upon.

Congenital obstructions of the duodenum as well as the remainder of the upper intestinal tract are usually classified as intrinsic and extrinsic. In the intrinsic variety, which may develop into complete atresia, the condition is thought to be due to persistent physiologic epithelial obstruction, that is, to the blocking of the duodenum by epithelial buds which later develop into the liver, biliary tract and pancreas. Such blocking usually occurs in about the sixth or seventh week of intrauterine life. It is the failure of absorption of this epithelium that leads to atresia of varying degrees.

The extrinsic type is generally thought to be due to compression of the duodenum by the superior mesenteric vessels and the mesentery of the small intestine. If the midgut fails to rotate properly or there is an undue drag on the mesentery, the third portion of the duodenum is subject to compression by the root of the mesentery and the superior mesenteric vessels, with the production of incomplete or complete obstruction. The mechanism which produces this obstruction has been adequately described in papers by Codman,⁸ Wilkie,⁹ Slocumb,¹⁰ Kellogg and Kellogg and many others.

The following case report is presented as an example of extrinsic congenital obstruction of the duodenum, apparently cured by duodenojejunosomy.

I saw and operated on the patient at St. Joseph's Hospital, Bellingham, Washington. The referring physician was Sheldon C. Bajema of Lynden.

M. M., age six years, male.

Chief Complaint. Persistent vomiting.

Present Illness. Since the time the child was seven days old he had had intermittent attacks of severe vomiting, often but not always projectile in character. His birth weight was seven and one-half pounds, and by the time he was six months old he weighed six and one-half pounds. During this period a physician who saw him felt that the boy had hypertrophic pyloric stenosis but advised against

1. Ladd, W. E.: Congenital Obstruction of Duodenum in Children. *New England J. Med.*, 206:277-283, Feb. 11, 1932; Congenital Obstruction of the Small Intestine. *J.A.M.A.*, 101:1453-1458, Nov. 4, 1933.

2. Braun, H.: Über den angeborenen Verschluss des Dünndarms und seine operative Behandlung. *Beitr. z. klin. Chir.*, 34:993, 1902.

3. Sheldon, W. P. H.: Congenital Atresia of the Alimentary Tract. *Arch. Dis. Childhood*, 1:279-284, Oct., 1926.

4. Ernst, N. P.: Case of Congenital Atresia of Duodenum Treated Successfully by Operation. *Brit. M. J.*, 1:644-645, May 5, 1916.

5. Kellogg, E. L. and Kellogg, W. A.: Chronic Duodenal Obstruction with Duodeno-Jejunosomy as Method of Treatment. *Ann. Surg.*, 73:578-608, May, 1921.

6. Webb, C. H. and Wangenstein, O. H.: Congenital Intestinal Atresia. *Am. J. Dis. Child.*, 41:262-284, Feb., 1931.

7. Morton, J. J. and Jones, T. B.: Obstructions about Mesentery in Infants. *Ann. Surg.* 104:864-891, Nov., 1936.

8. Codman, E. A.: Chronic Obstruction of Duodenum by Root of Mesentery. *Boston M. & S. J.*, 158:503-510, April 9, 1908.

9. Wilkie, D. P. D.: Chronic Duodenal Ileus. *Brit. M. J.*, 2:1219-1222, Dec. 23, 1922; Chronic Duodenal Ileus. *Am. J. M. Sc.*, 173:643-649, May, 1927.

10. Slocumb, L. H.: Compression of Duodenum by Mesentery and Superior Mesenteric Vessels. *Surg., Gynec. & Obst.*, 44:359-364, March, 1927.

operation and treated him with antispasmodics and thick cereal feedings. During the second half year of the child's life he made an appreciable gain of fourteen pounds and his vomiting spells decreased in number and severity. When he was about a year and a half old, he had the attacks of vomiting about twice a month, usually lasting for three or four days, the longest being eight days. Enemas seemed to give some relief, and the child soon learned to get some relief of the associated colicky pain by assuming a knee-chest position and refusing all food. During the third year of his life he had only a few attacks, and his parents were hopeful that he was "outgrowing" the condition, but during the fourth, fifth and sixth years the attacks of vomiting returned, with so much greater severity that the boy was having practically continuous trouble.

Two months prior to my examination of this patient, he contracted whooping cough which made the symptoms much worse. During this time he lived chiefly on fluids given by mouth, rectum and venoclysis. For the previous week he had retained no food whatever; often he retained two or three feedings, the entire amount to be vomited when this reflex could be excited. He had recently become so weak that he was unable to raise an arm. Surgical intervention had been postponed as long as possible because of the presence of the whooping cough.

The family history was irrelevant. The father and mother were living and well, one sister living and well. There was no tuberculosis nor cancer in the family history.

Physical Examination. This is a child six years of age, who weighs twenty-five pounds. The head is abnormally large for the size of the body which shows extreme emaciation. The thoracic cage stands out prominently. The abdomen is somewhat scaphoid, particularly in the lower part. In the epigastrium there is some slight distention. No tumor is felt in the abdomen. The heart and lungs are negative.

Laboratory Examination showed the hemoglobin 98 per cent, red blood count 5,000,000, white blood count 7700, with a normal differential. Urine was entirely negative except for 2 plus acetone.

Roentgen examination (fig. 1). Barium is given by mouth. The esophagus and stomach are negative except that the stomach is larger than usual for a patient of this age. The duodenum is dilated to about twice the normal size. It fills under pressure and the barium runs back into the stomach, although a small stream trickles through a greatly narrowed ascending portion into a more or less kinked proximal jejunum. The narrowed portion is roughly one and one-half inches in length. The small intestine, which is incompletely filled, shows no abnormality. Impression: obstructive process compressing the terminal duodenum and proximal jejunum.

It was only with some temerity that operation was advised because of the poor condition of the patient and doubt as to his ability to withstand a laparotomy. However, it was felt that surgical intervention was the only hope of saving the patient's life, since he had been going downhill very rapidly in the past month.

Operation. July 10, 1937. Under gas and ether anesthesia, an upper right paramedian incision was made, about 8 cm. long, and the rectus muscle was retracted laterally. When the abdomen was opened, a mass of adhesions was found

occupying the entire upper abdomen. In the root of the mesentery of the small intestine and spreading out over the posterior peritoneum, were dilated veins 1.5 cm. in diameter. There was a lymph gland the size of an almond lying beneath the stomach on the root of the mesentery. The duodenum was found dilated to about 3.5 cm. in average diameter and could be followed to the left of the midline, where, at its junction with the jejunum, it apparently was obstructed by the superior mesenteric vessels passing over the superior part of the duodenum. Because of the adhesions and the plexus of dilated veins, it was thought unwise to attempt any manipulation of the viscera, and an anastomosis was, therefore, done between the dilated third portion of the duodenum and the proximal jejunum, about 12 cm. distal to the ligament of Treitz. A stoma about 2.5 cm. in length was provided, catgut with silk reinforcements being used in the serosa. The patient's pulse was about 128 per minute throughout the entire operation, and the respirations were about 30. He was in very poor condition when the operation was finished.

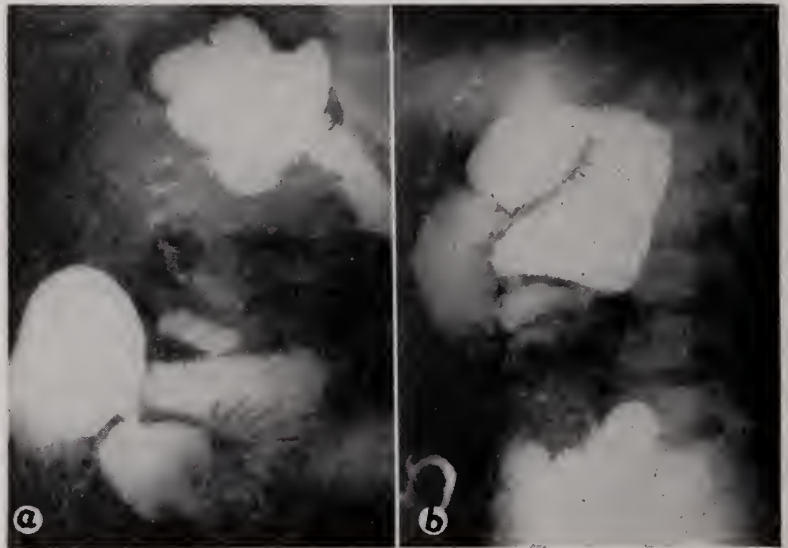


Fig. 1. Preoperative roentgenogram showing the dilated duodenum with obstruction in the third portion. Some barium has passed into the small intestine. a, anteroposterior view; b, lateral view.

Course in hospital. Shock treatment was given immediately as soon as the operation was over, with intravenous saline and glucose. There was little postoperative distention, and the intravenous fluids were soon augmented by small liquid feedings, all of which were retained. A soft diet was given six days after operation. The skin sutures were removed two weeks after operation, at which time the wound was clean and well healed. The patient was discharged from the hospital twelve days after operation.

He continued to gain weight and at three weeks after operation weighed forty pounds, a gain of fifteen pounds over his preoperative weight. He began school two months after operation (fig. 2). His present weight, twenty-seven months after operation, is approximately fifty-two pounds, and he is fifty-one inches tall. He is active, eats everything, and apparently is a normal boy (fig. 3).

COMMENT

In the case reported above, the assumption by the attending physician, when the child was an infant that he was dealing with hypertrophic pyloric stenosis, is of some interest. The onset of the vomiting occurred at about the same time after birth

that symptoms of pyloric stenosis become apparent, and the latter condition occurs much more frequently than the lesion which produced the symptoms in this case. However, the bilious character of the vomitus, which was undoubtedly present, might have indicated that the point of obstruction was distal to the ampulla of Vater. Roentgen study in the early months of the child's life would have accurately disclosed this point.

It is also interesting to note that the patient's symptoms changed with his growth. They were less marked during the stage when he was creeping and did not become a fixed symptomatology until he assumed the erect posture. It was at about this time that the patient discovered that his symptoms



Fig. 2. Roentgenogram taken one year after operation. The anastomosis may be seen. The duodenum is now of normal size.

were better if he again assumed the knee-chest position, or an exaggerated position of a quadruped. It is likely that, had he eaten on all fours, his condition would have been very much less complicated and his growth would have continued at a normal rate. This is clearly brought out in papers by Codman and Slocumb who point out that in quadruped mammals the relations of the peritoneum to the duodenum differ from those in man (fig. 4). In the animal the duodenum is a free peritoneal loop hanging in the abdominal cavity and is not compressible by the mesentery or the superior mesenteric vessels.

At the time of operation of the above case it was obvious that a side-tracking anastomosis was necessary, and that it must be accomplished in the shortest possible time. I had previously acquainted my-

self with the literature on the subject and chose to do an anastomosis between the dilated duodenum and first portion of the jejunum rather than a gastroenterostomy because of the reported poor results with the latter. It was unfortunate that the density of the adhesions and otherwise poor condition of the patient made it impossible to determine accurately the cause of the obstruction. However, it is probably fair to assume that it was due to malrotation of the midgut and compression of the third portion of the duodenum by the superior mesenteric vessels. This view is supported by the dilatation of the vessels in the mesentery and the fact that no true atresia existed in the duodenum, since there

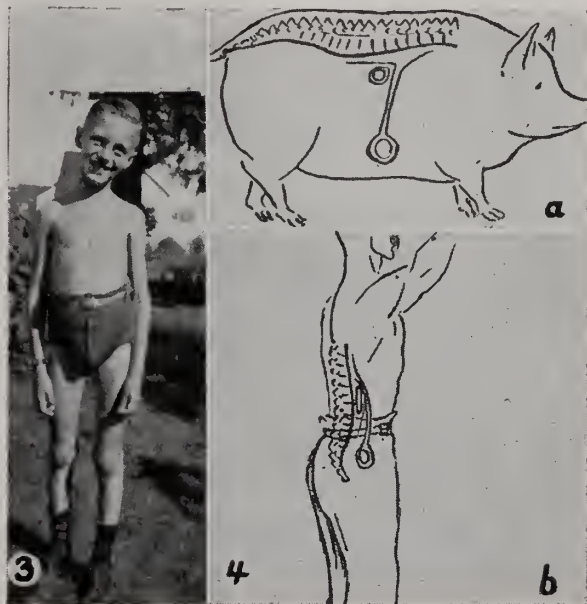


Fig. 3. Recent snapshot of the patient.

Fig. 4. Drawings reproduced from Codman's paper by permission of the author. a. The horizontal animal with the ideal digestion. The root of the mesentery does not compress the duodenum. b. In vertical man the duodenum is compressed by gravity, the belt and the tension of the abdominal muscles.

are periods when food passed through the duodenum into the jejunum with a normal gradient.

SUMMARY

1. A case of congenital obstruction of the duodenum is presented, in a six-year-old boy weighing twenty-five pounds.

2. It is assumed that the obstruction was due to compression of the duodenum by the superior mesenteric vessels and the mesentery of the small intestine.

3. Cure was effected by duodenojejunostomy. The child is apparently healthy and is developing normally at twenty-seven months after operation.

AGENESIS OF OLFACTORY TRACTS*

REPORT OF TWO CASES

HARRY N. ROBACK, M.D.

AND

M. W. CONWAY, M.D.

MEDICAL LAKE, WASH.

Developmental anomalies of the central nervous system are not uncommon and may range from absence of a cranial nerve nucleus to lack of development of large portions of the brain. Frequently developmental anomalies are not recognized clinically and are unexpectedly found at autopsy. We have thus encountered two cases of lack of development of the olfactory tracts which we believe are worthy of reporting to call attention to the fact that such a condition probably exists more commonly than is usually supposed and indicates the importance of inquiring into and testing the olfactory apparatus in the routine physical or neurologic examination. The test itself is not difficult and can be carried out in a few minutes. It consists of placing separately before each nostril characteristic odors such as peppermint, oil of cloves and asafetida. The newer method described by Elsberg¹ is more dependable but is more difficult to carry out.

CASE REPORTS

Case 1. S. R., a 35-year old single white man of asthenic habitus, a transient in the state, was committed to Eastern State Hospital because he displayed queer behavior. He talked repeatedly about having been persecuted by Japanese people in Seattle, who, he said, tormented him by means of mesmeristic will forces. He claimed to be doing research work to determine the extent of these forces.

Not much information could be obtained regarding his past history. When he was nine years old he became deaf, following a fall in which he struck his chin. He attended a school for the deaf and was a good student. After graduating from the school at twenty years of age he secured a position as clerk in a large mail order firm, where he was successful for five years. He then became dissatisfied, wandered about the country and two years later, when he threatened suicide, he was committed to a state hospital in Illinois. His condition, however, improved sufficiently after several months to be released from the institution but he did not remain at home long. He again led a nomadic existence until his commitment to our hospital.

On admission he was restless, displayed various mannerisms, grimacing and unmotivated laughter. His speech was incoherent, with considerable blocking. He expressed the delusions already mentioned and also believed that he was being persecuted by the sheriff of a local county. He was hallucinated in the auditory sphere. His sensorium was intact but his judgment was markedly impaired and he was totally lacking in insight. His sense of smell was defective and there was bilateral deafness.

There were no other neurologic findings. The blood Wassermann test was negative. His mental condition became progressively worse with intellectual dilapidation, demon-

stration of violent behavior and death followed exhaustion after four and one-half years hospitalization.

A complete autopsy was performed. The body was that of an extremely cachectic young adult white male. There were numerous excoriations and bruises on the trunk and lower extremities. The brain weighed 1390 grams. The cerebral arteries were thin, smooth and translucent. The left olfactory bulb and tract were normal but the right olfactory bulb was absent and only a rudiment of the tract was seen (fig. 1). Other autopsy findings were lobar pneumonia of the left lower lobe with atelectasis of the upper lobe, brown atrophy of the heart, liver and kidneys, atrophy of the testicles, distended bladder and moderate atheromatosis of the abdominal aorta.

Case 2. E. P., a 74-year old white man, a cabinet-maker, was committed to Eastern State Hospital with the diagnosis of senile psychosis. He expressed the delusion that the city in which he lived was hypnotized and was not a safe place to be in. He refused to eat because he believed his food was poisoned and he thought everybody was against him. He stated that the queen of Holland had sent him a check for one million dollars.

Physical examination on admission revealed pulmonary tuberculosis. The Wasserman test was negative. In the hospital he continued to express paranoid delusion and he was hallucinated in the auditory sphere. His sensorium was patchy and his judgment impaired. His physical state was fair until about two months prior to his death from pulmonary tuberculosis.

A complete autopsy was performed about twenty-four hours after death. The body was that of a moderately well developed but emaciated elderly white male. The brain weighed 1291 grams. The arteries of the Circle of Willis contained a few atheromatous patches. Only rudiments of the olfactory tracts were seen and the olfactory bulbs were bilaterally absent (fig. 2). Other findings were pulmonary fibrocaseous tuberculosis, cardiac dilatation and chronic myocardial degeneration, severe sclerosis of the large arteries,

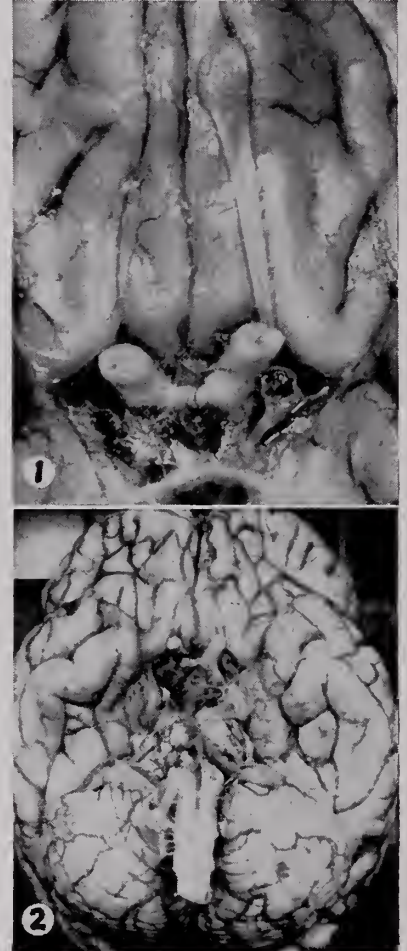


Fig. 1, case 1, left olfactory tract and bulb intact; right bulb absent, only rudiment of tract being present.

Fig. 2, case 2, bilateral absence of olfactory bulbs and terminal portion of olfactory tracts.

*From Eastern State Hospital.

1. Elsberg, C. A.: Newer Aspects of Olfactory Physiology and their Diagnostic Applications. Arch. Neurol. & Psychiat. Feb., 1937.

brown atrophy of the liver, chronic cystitis, enterocolitis and orchitis, cloudy swelling of the kidneys and chronic splenitis.

COMMENT

Developmental anomalies of the central nervous system are frequently associated with defects of other organs and may be of sufficient severity as to be incompatible with life. The causes of developmental anomalies are not well known except in those instances in which a definite infectious or toxic disease is suffered by the mother during pregnancy and thus may affect the embryo or fetus. However, in the majority of cases a history of normal pregnancy is obtained and the cause of the maldevelopment is left unexplained.

According to Globus² "the primordium may be so defective as to be unable to evolve more than a rudimentary structure." This theory may well ex-

plain the developmental absence of the olfactory tracts in our two cases. The olfactory tracts are developed from the cephalic division of the olfactory lobe of the embryonal rhinencephalon³. The latter makes its appearance at the end of the sixth week as an elongated area which is subdivided by a transverse groove into cephalic (anterior) and caudal (posterior) olfactory lobes.

Since the function of the olfactory tracts is to conduct olfactory stimuli from the olfactory nerves in the nasal mucous membrane to the rhinencephalon absence of the olfactory tracts naturally produces anosmia. In our first case there was a history of defective smell but in our second no information was obtained relative to the olfactory apparatus. However, in view of the absence of both olfactory tracts and bulbs bilateral anosmia must have been present.

2. Globus, J. H.: Developmental Defects of Brain and Spinal Cord. Nelson New Loose Leaf Medicine, Vol. 6. Thos. Nelson & Sons, New York, 443.

3. Tilney, F. and Riley, H. A.: Form and Functions of Central Nervous System, Third Edition, Paul B. Hoeber, Inc., New York, 1938.

SYNTHETIC FEMALE SEX HORMONE

Twenty-five girls, ranging in age from 20 months to 12 years, were successfully treated for a gonorrheal infection by the administration by mouth of a synthetic female hormone called diethylstilbestrol, Joseph D. Russ, M.D., and Conrad G. Collins, M.D., New Orleans, report in *The Journal of the American Medical Association* for June 22.

The condition is generally the result of accidental infection from contaminated materials and is common in young girls, especially under the age of 7 years. Its treatment has always been difficult.

In the cases reported by the New Orleans physicians negative smears were obtained in from seven to eighteen days. The substance was crushed and administered in two ounces of milk. The two physicians say that: "The rapidity of cure, the absence of any toxic or deleterious effects and the ease of administration as regards both the family and the physician lead us to believe that it is an ideal drug for the treatment of this condition." They also point out that it is an economical method of treatment.

HYPERTENSION MAY BE UNIMPORTANT

Although high blood pressure is frequently associated with serious disease, in some instances its occurrence is relatively unimportant and should cause no anxiety, Robert Sterling Palmer, M.D., Boston, declares in the July issue of *Hygeia, The Health Magazine*.

Furthermore, he points out, anxiety itself commonly causes the blood pressure to be twenty points higher and in some cases fifty or more points higher. Thus it is important to have one's blood pressure rechecked, in case it is abnormally high, in order to rule out this element of anxiety. Because the patient is nervous when the pressure is being taken, he is sometimes refused life insurance when the high reading is really not significant.

CORRESPONDENCE

HOSPITAL QUIET

To the Editor: Portland, Ore., June 19, 1940

I was pleased to see in the June issue of *NORTHWEST MEDICINE* your editorial, "Quiet in the Hospital." I have been myself a patient in thirteen different hospitals and have been so disturbed frequently by unnecessary noises that some time ago I wrote the enclosed bit of doggerel on the subject.

NOISES IN HOSPITALS

Have you ever noticed the yellow sign
As you passed by a hospital square?
"Quiet!" they say, so you throttle down,
And drive thru that block with care.

If you step inside, the "Quiet" signs
Will meet your eyes in every hall.
But if you inquire of the patients there,
The ones in the wards will all declare
It's the noisiest place of all.

The clash of the elevator doors,
The rattle of trays and dishes,
The jingle of telephones out in the hall,
The oft-repeated intern's call,
Are all against our wishes.

The radio, too, contributes its share,
If you wish to sleep, it is sure to blare,
And give you the latest high-pressure dope,
About some advertiser's soap.

If you can stand this combination
On top of your major operation,
I'll say you're a hero staunch and brave,
And to weakness will never be a slave.

A. F. BLACHLY, M.D.

STATE SECTIONS

**OREGON STATE
MEDICAL SOCIETY**



**SIXTY-SIXTH ANNUAL
MEETING, EUGENE, SEPT. 4-7**

ORGANIZATION ACTIVITIES

The Council and Bureau of Medical Economics met in joint session at Portland June 1. The meeting was preceded by a joint meeting of the Executive Committee of the Council and Executive Committee of the Bureau. A number of important matters were considered and acted upon.

The Council adopted the following resolutions, submitted by the Committee on Public Policy to establish policies concerning certain phases of venereal disease control:

Reporting of Venereal Diseases by Persons Other than Physicians

Whereas: Section 59-709 Oregon Code, 1935 Supplement, requires every physician, director of a laboratory, technician or other person, making a bacteriologic, serologic or other examination which shall indicate the existence of a venereal disease infection in any person, to report the results of such examination, and keep a duplicate of such report showing the correct name and address of the patient; and

Whereas: Section 59-710, Oregon Code, 1935 Supplement, requires every physician, nurse or other person treating or attempting to treat any venereal disease, or selling or giving away any medicine which either by itself or in conjunction with any other treatment is claimed to be useful to cure, etc., any venereal disease, to report the existence of said case of venereal disease, and to keep a duplicate of said report showing the correct name and address of the patient; and

Whereas: The Council of the Oregon State Medical Society deems the requirements of said reports by persons other than physicians undesirable for the following reasons:

1. They are useless from a statistical viewpoint, for the laboratory, etc., has usually no knowledge of the identity of the patient, and reports by a physician, his nurse, laboratory making examination of specimen and druggist selling a remedy, all are required to make reports about one case; also a physician might send specimens to several laboratories, or to the same laboratory on different occasions, all of which would create many reports concerning one case;

2. The physician is the only person qualified by knowledge or experience to diagnose venereal disease, and it is ridiculous to require laymen to report on the existence of a venereal disease which he is not qualified to diagnose;

3. The Board of Health has neither the means nor the facilities to fully enforce the statute, and it is just one more unenforceable law on the books;

4. It forces unqualified persons to commit a crime, by illegally diagnosing a disease; it further seems to countenance persons other than legally licensed physicians treating venereal diseases;

5. It permits and encourages "snooping" into the physician's confidential relationships with his patients, and encourages persons who have not sufficient knowledge to diagnose venereal disease to substitute his diagnosis or suspicions, for the diagnosis of physicians; now therefore, be it

Resolved: By the Council of Oregon State Medical Society:

1. That the said law be amended by eliminating the necessity for reports by persons other than physicians;

2. That a copy of this resolution be transmitted to the President, and another copy to the Secretary, of the State Board of Health;

3. That a letter be written by the Secretary to the State Board of Health, asking for its cooperation in securing such an amendment, and asking that the Board communicate its decision regarding such an amendment to the Society.

Opposition to Ill-Considered Amendments to Venereal Disease Control Laws

Whereas: The existing laws concerning venereal diseases, use of laboratory facilities of the State Board of Health, and marriage examinations (except sections 59-709 and 59-710 Oregon Code, 1935 Supplement) are fairly satisfactory, and have the advantage of being understood by physicians and laymen; and

Whereas: Last minute tinkering with such laws without adequate study by practicing physicians usually produces weird and impractical results; now therefore, be it

Resolved: By the Council of the Oregon State Medical Society:

1. That any amendments to such laws be opposed by the Society, unless the agency advancing such amendments presents them to the Society in time to receive adequate consideration, or the appropriate committee of the Society formally approves them;

2. That copies of this resolution be furnished to any agency which advances legislation designed to affect the physician's functions under such laws.

Survey of Facilities of Oregon State Hospital

Whereas: The opinion of physicians and Oregon State Medical Society may be sought on medical phases of the facilities of Oregon State Hospital; now therefore, be it

Resolved: By the Council of the Oregon State Medical Society:

1. That the Committee on Medical Education and Hospitals of Oregon State Medical Society, with the addition of two members engaged in the practice of neuropsychiatry, invite representatives of Oregon State Hospital to meet with it;

2. That the committee report to the Council on a policy and program regarding such hospital, if the committee deems such report feasible.

Proposed Regulations Relating to Supplying of Laboratory Tests and Treatment Materials for Venereal Diseases by the State Board of Health

The following regulations relating to supplying of laboratory tests and treatment materials for venereal diseases, proposed by the Committee on Public Policy for the consideration of the State Board of Health, were presented:

The State Board of Health of the State of Oregon (hereinafter called "Board") hereby instructs the state laboratories to furnish facilities for necessary laboratory examinations for the diagnosis of all communicable diseases (including venereal disease), and provide the necessary materials for proper treatment of such diseases, at public expense, under the following conditions:

A. To all city and county boards of health and health officers in examination of such cases as are included under sections 59-714, 59-715, 59-718 and 59-721, Oregon Code, 1935 Supplement.

B. To all inmates of state institutions.

C. To all Public Welfare Commission clients.

D. To all persons who are registered in the out-patient clinic of University of Oregon Medical School.

E. To all persons who are eligible for free care in county hospitals of this state.

F. Emergency treatment of all patients who apply.

G. All patients who apply to health officers, or to physicians qualified to treat such disease, and who are unable to pay for such service, after receipt of the certificate or statement required by law.

The determination of the ability of patients to pay for private medical care shall be the responsibility of the Board or the State Health Officer; provided that the information, and any certificate or statement required by law accompanies application for such examination or materials.

In the case of application for such examination or materials by a physician qualified to treat venereal diseases, the application shall be accompanied by the following request:

I request that the facilities of the State Board of Health for the laboratory examination for the diagnosis of venereal disease and necessary materials for the proper treatment of such diseases be made available to (name)....., of (street)....., (city)....., (county)....., Oregon.

I hereby state that (he or she) is unable to pay for such service or for medical service, and no charge is being made by me to (him or her) for services in securing the body fluid, secretion or excretion on which the laboratory examination is requested, nor will any charge be made for the treatment of the disease for which a test is made.

.....
Signature of Physician

All regulations in conflict herewith are revoked.

The Council referred these proposed regulations, for study and recommendations, to the Committees on Public Policy and Venereal Disease, together with representatives of the State Board of Health.

Laboratory Tests for Applicants for Marriage Licenses in California

There was discussion concerning the policy of the California State Board of Health, under which it will only accept laboratory reports of venereal disease tests, made in Oregon, in connection with applications for marriage licenses from the Hygienic Laboratory of Oregon State Board of Health. It was pointed out that the effect of this policy is to prohibit private laboratories in Oregon from performing these tests for applicants for marriage licenses in California, in spite of the fact that these private laboratories have been approved by the Oregon State Board of Health to make these tests for applicants for marriage licenses in Oregon.

The Council voted to request the Council of California Medical Association to take up this matter with the California State Board of Health, with a view to obtaining a change in this policy to permit the acceptance of laboratory reports in this connection from private laboratories

which have received the approval of the Oregon State Board of Health.

Medical Aid Contracts by the State Industrial Accident Commission

There was discussion concerning making medical aid contracts of the State Industrial Accident Commission with hospital associations. It was suggested that the Committee on State Industrial Affairs discuss this subject with the State Industrial Accident Commission, with a view to inducing the Commission to discontinue making such contracts, so far as feasible. It was also suggested that the Commission be requested to cooperate with the Society in amending the Workmen's Compensation Law to eliminate this practice, or at least in not opposing such legislation.

It was voted that the Committee on Public Policy be instructed to have drafted and introduced at the 1941 Session of the State Legislature amendments to the Workmen's Compensation Law to prohibit the making of medical aid contracts.

Basic Policies Concerning Postgraduate Education

The Council, on recommendation of its Executive Committee, adopted the following basic policies with respect to postgraduate education:

1. That the direction and providing of postgraduate instruction to the medical profession be considered strictly as a function of the medical profession itself, as represented by the constituent state medical associations, the American Medical Association and affiliated organizations in the specialties, and approved medical schools.

2. That federal and state agencies have no proper place in the field of postgraduate medical education, in view of the fact that their activity in this field tends to establish a pattern leading to eventual bureaucratic control of medical education, with its various inefficiencies and political ramifications.

3. That it is very doubtful whether there is an actual need for the organization known as the Associated State Postgraduate Committees, inasmuch as it duplicates the work of the Council on Medical Education and Hospitals of the American Medical Association which is functioning actively as a coordinating mechanism between the various constituent state medical associations in the field of postgraduate instruction.

4. That the suggestion be offered to the American Medical Association that the Council on Medical Education and Hospitals promote, in connection with each annual session of the Association, a conference on postgraduate medical education, to which would be invited members of the committees on postgraduate instruction of constituent state medical associations and other members of the profession interested in postgraduate instruction.

Policy Concerning Certain Objectionable Practices of Insurance Companies

The Council, on recommendation of its Executive Committee, adopted the following resolution concerning certain objectionable practices of insurance companies:

Whereas: Certain insurance companies, which write medical indemnity insurance, medical expense insurance, health and accident insurance or insurance providing for compensation and medical aid benefits to workmen injured in the course of their employment, have established the practice of demanding from physicians reports of diagnosis and treatment without the authorization of the assured; and

Whereas: Many of these companies also attempt to fix

the fee for the physician's services, and often attempt to apply the fee schedule of the state agency administering the workmen's compensation law, even though the physician has no contractual or other relationship with the insurance company involved; and

Whereas: The fee schedules of the agencies administering the various workmen's compensation laws have been established in cooperation with representatives of the medical profession and are based upon a generous discount from customary fees offered by the medical profession to a non-profit state agency as a gratuitous contribution to the welfare of their state and community; and

Whereas: There is no justification for commercial organizations operating for profit to apply such fee schedules in order to make a profit for themselves; and

Whereas: These practices are not confined to Oregon, but are national in their scope; now therefore, be it

Resolved: By the Council of Oregon State Medical Society:

1. That the practices of such insurance companies in demanding from physicians reports of diagnosis and treatment without the authorization of the assured, and in so fixing the fee for the physician's services even though the physician has no contractual or other relationship with the company involved, are hereby declared to be contrary to the best interests of the public and the medical profession.

2. That a copy of this resolution be sent to the Secretary of the American Medical Association, for the attention of the House of Delegates of that Association.

3. That the delegate from Oregon to the coming convention of the House of Delegates of that Association be furnished with a copy of this resolution, and that he be asked to have this matter brought to the attention of said House of Delegates.

Coos Bay Hospital Association Approved

The Council approved the Coos Bay Hospital Association as an agency to administer a plan of prepaid medical care to low-wage industrial groups in the territory embraced by the Coos and Curry Counties Medical Society, and recognized Dr. Dean P. Crowell of Marshfield as representative of the Association in the Bureau of Medical Economics. The Coos Bay Hospital Association, with the assistance of the Bureau of Medical Economics, has recently been reorganized so that its former limited membership of physicians has been expanded to include all the members of the Coos and Curry Counties Medical Society practicing in the territory which it serves.

Multnomah Medical Service Bureau to Serve Territory of Central Oregon Medical Society

In compliance with a request of Central Oregon Medical Society, the Council authorized Multnomah Medical Service Bureau to extend its activities to the territory embraced by that Society for the purpose of making available to low-wage industrial groups a plan of prepaid medical care.

The Case for Private Medicine

The Council authorized that reprints of the article, "The Case for Private Medicine," which appeared in "The Nation's Business" magazine for May be sent to the editors of all daily and weekly newspapers in the state.

ANNUAL STATE MEETING

THE EUGENE SESSION: A POSTGRADUATE ASSEMBLY

In conformity with the policy recently adopted by the Council "that for the next three years the postgraduate instruction offered by the Society consist of a centralized course to be offered in connection with the annual session," the Committee on Annual Session has been working with the Committee on Postgraduate Education in developing a

program which will be largely of a postgraduate nature. The two committees are planning a series of well organized presentations in medicine, endocrinology, surgery and orthopedics by guest speakers of national reputation.

Fred M. Smith, Professor of Theory and Practice of Medicine at the State University of Iowa College of Medicine; Arthur Steindler, Professor of Orthopedic Surgery at the same institution, and Hans Lisser, Clinical Professor of Medicine at the University of California Medical School, have been engaged as guest speakers. The guest speaker in the field of surgery has not yet been selected. Each of the visiting clinicians will make three presentations in his field and lead a round table discussion.

In order that some opportunity may be offered for local essayists to present material, a limited number of local papers will be scheduled. At the present time it appears that the number of local papers will necessarily be limited to ten. Special effort is being made to induce the members to participate in the Scientific Exhibit.

Scientific sessions will be held in Eugene's Masonic Temple. The Scientific Exhibit and the Technical Exhibit will also be housed in this building.

Round table discussions are scheduled for luncheon on the first three days of the meeting and evening of the second day. The annual banquet will be held on the evening of the third day. The annual business meeting will be scheduled for the morning of the fourth day. It will be followed by the annual golf tournament and other entertainment. As has been the custom for a number of years, the House of Delegates will convene at breakfast each morning.

The headquarters for the Session will be the Osburn Hotel. The Eugene Hotel will be the headquarters of the Woman's Auxiliary.

As each of the guest speakers is outstanding in his field, members will be justified in staying a full three days to hear any one of them. The Session as a whole will truly be a postgraduate course worth any physician's time.

Eugene, and the environs of the University of Oregon and its numerous other attractions, is an ideal setting for the meeting. Hotel accommodations are ample, and no one need sleep in a dormitory, a tent or his car. However, it is recommended that members make their reservations early, come early, stay through the entire Session and learn of new developments in diagnosis and treatment from four outstanding guest speakers.

Remember the dates, September 4-5-6-7.

SOCIETY MEETINGS

POLK-YAMHILL-MARION MEDICAL SOCIETY

Polk-Yamhill-Marion Medical Society met in Salem, May 14. Donald R. Laird, proctologist of Portland, addressed the meeting on "Rectal Cancer, Fistula, Fissure, Pain and Anal Pruritus." Discussion was offered by Drs. Meyers, Lebold and Coffey of Salem.

YAMHILL COUNTY MEDICAL SOCIETY

Yamhill County Medical Society met June 4 at McMinnville. Ladies were invited, and two of the older members of the Society were honored, J. H. Cook and M. E. Reitzel.

CENTRAL WILLAMETTE MEDICAL SOCIETY

Central Willamette Medical Society met at Lebanon, May 30, and heard a symposium on "Parenteral Fluid, What to Give, When to Give It and Why," by Drs. Rush, Holman, Gambee and Robertson of Portland.

WOMAN'S AUXILIARY

BENTON COUNTY MEDICAL AUXILIARY entertained Mrs. James M. Odell, State President, and Mrs. Frances Hosford, chief of the Woman's Field Army in Oregon for Control of Cancer, at luncheon at Hotel Benton in April. Later the group was invited to the home of Mrs. E. W. Howard, where an exhibit of early Benton County relics had been arranged by the hostess. In May the auxiliary met at the home of Mrs. Henry Garnjobst for dessert luncheon. A paper, "Is Medicine to Be Socialized?" by B. G. Leland, Director of the Bureau of the A.M.A., was read during the afternoon. Mrs. S. A. Roe, member of the auxiliary and widow of the late Dr. S. A. Roe of Corvallis, is continuing her service to health interests in the office of president of the Benton County Health Association. The Red Cross drive was actively helped by the Benton County auxiliary when downtown booths were kept for a day during the week of June 3-8 by volunteer members.

MARION-POLK-YAMHILL AUXILIARY met in April at the home of Mrs. H. H. Barlow and had a most instructive talk on "The Development of Treatment for Psychiatric Patients" by John W. Evans of Portland. The May meeting was held at the home of Mrs. F. H. Thompson, and an interesting talk on wood prints, by Constance E. Fowler of the Art Department of Willamette University, was enjoyed. The speaker showed a number of wood cuts used for this purpose, also some of the prints she had made of historic buildings in Oregon.

MID-COLUMBIA MEDICAL SOCIETY AUXILIARY sponsored a tea, May 16, at which John H. Fitzgibbon of Portland spoke on "The Recent Developments in the Health Program of the Federal Government," after which the auxiliary members met for a no-host dinner at The Dalles Hotel. Mrs. Chas. E. Hunt of Eugene, president of Lane County Medical Auxiliary, was a special guest. Miss Mary Frances Gilbert gave an interesting review of the book, "Ten Years in the Congo."

MULTNOMAH COUNTY AUXILIARY entertained prospective members at a beautiful tea at the home of Mrs. J. J. Rosenberg in May. This is to be the last official function of the year, but all eyes are turned now to the State Convention in Eugene, September 4-7. Headquarters for the ladies will be the Eugene Hotel, and many interesting plans are under way.

MRS. JOHN F. ABELE,
State Publicity Chairman

U. of O. MEDICAL SCHOOL

WILLIAM S. CONKLIN, newly appointed Resident in Thoracic Surgery has arrived on the campus of the Medical School to commence service July 1. Dr. Conklin graduated from University of Pennsylvania Medical School, interned at Los Angeles County General Hospital, and subsequently served as Medical Director of "The Pines Sanatorium"

of Shreveport. His residency will be served under direct supervision of Ralph Matson, Associate Clinical Professor of Surgery at the Medical School, in charge of the Tuberculosis Unit.

JAMES SPEROS, Assistant City Health Officer and Director of the Outpatient Clinic in the Tuberculosis Hospital Unit of University of Oregon Medical School Hospitals and Clinics, has received appointment to the Public Health course offered at Johns Hopkins University for the year starting September 1.

THE OFFICER PERSONNEL OF THE 46TH GENERAL HOSPITAL is being procured at this time as part of the reorganization program of the premobilization plan of the War Department. Responsibility for organization rests with R. B. Dillehunt, Dean, and officer personnel is to be obtained from the faculty of the Medical School. "General Hospitals," now designated throughout the United States, replace those coming under the terminology "Base Hospitals," during the last World War. Base Hospital 46 served one year in France and was organized at University of Oregon Medical School. The personnel roster of the hospital comprises 42 officers, 120 nurses and 400 enlisted men. Applications are being received for specialists in the "enlisted personnel," including clerks, laboratory technicians, buglers, butchers, carpenters, chauffeurs, cobblers, cooks, medical technicians, surgical technicians, motorcyclists, pharmacists, photographers, stenographers, tailors and typists. Applications are not being received at this time for nursing personnel. Women are not eligible for enlistment in the Reserve Corps.

THE FORTY-SECOND ANNUAL MEETING OF THE MEDICAL LIBRARY ASSOCIATION, held at the Medical School June 25-27 on the occasion of the new library's dedication, was most successful. Registration included seventy-five members from all parts of the United States. President of the 1940 meeting was Col. Harold Wellington Jones, Medical Corps, United States Army, Washington, D. C.

In addition to the President's address, on Tuesday there was a symposium on the "History and Literature of Epidemiology with Emphasis on Some Pacific Coast Aspects." Introduction, T. L. Meador, Portland City Bureau of Health; Plague, H. J. Sears, University of Oregon Medical School; Tularemia, Wm. Levin, Oregon State Board of Health; Rocky Mountain Spotted Fever, C. B. Philip, Rocky Mountain Laboratory, Hamilton, Mont. Among other topics discussed Wednesday was that of the dental library problems.

MEDICAL NOTES

At the annual Convention of the National Tuberculosis Association in Cleveland, Ohio, G. C. Bellingher of the Salem State Tuberculosis Hospital was elected vice-president of the national organization.

The Medical Discussion Club of Portland met June 24 and 25 at the University Club, where they were addressed by their guest speaker, Tinsley R. Harrison, on "Dynamics of the Circulation." Dr. Harrison is Associate Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee.

The city of La Grande has started a drive to have Hot Lake Sanitarium established as a veterans' hospital.

Doctors and dentists of Jackson and Josephine Counties held a joint banquet, June 12, at Chalkers Motel, between Rogue River and Gold Hill. The principal speaker was Dr. Edwin R. Durno, counselor for the Oregon State Medical Society, who spoke on "Medical Economics."

At a special board meeting of Multnomah County Public Health Association, Mrs. E. Loren Hartwig of Portland was elected president to succeed Grant Phegley who died May 19.

Jack C. Haldeman has been permanently elected to head the city and county health unit at The Dalles.

Marshall A. Rockwell, now at the Portland Sanitarium, will take over the practice of R. I. Hall of Veronia.

STATE BOARD OF HEALTH

Health Officers Attend Western Branch A.P.H.A.

Frederick D. Stricker, State Health Officer, and Floyd DeCamp, Director of Oral Health with the State Board of Health, attended the annual meeting of the Western Branch of American Public Health Association at Denver, Colorado, from June 24-26. Dr. Stricker is president of the Association.

Botulism Found in Klamath Falls

An outbreak of botulism occurred in Klamath Falls on May 29. Canned beets were thought to be the food containing the toxin. The cases were treated with botulism antitoxin.

Vital Statistician Returns

Mr. Deward Waggoner has returned from the University of Michigan, where he received a year's special training in vital statistics.

Poliomyelitis Outbreak Causes Inquiries

An outbreak of poliomyelitis in Pierce County, Washington, has been the cause of a number of inquiries at the Health Department office. Oregon has had only a few scattered cases. However, physicians are warned to be on their guard.

Changes in Staff

Samuel D. Allison, Director of the Division of Venereal Disease Control, has left for Baltimore to attend Johns Hopkins University for postgraduate work. He will be gone eleven months. During his absence E. C. Drescher of the United States Public Health Service will act as Director of the Venereal Disease Control Program.

Harold Erickson, who has just returned from Johns Hopkins, will succeed G. D. Carlyle Thompson as Director of the Division of Maternal and Child Health. Dr. Thompson has resigned to take a position with the Children's Bureau.

New Films Purchased

Recently the State Board of Health added to its film library new copies of "With These Weapons," a film dealing with the control of syphilis. This film is available in both 16 and 35 mm. sizes and may be procured by communicating with your County Health Officer.

Multnomah County Health Association Meeting

Multnomah County Health Association held its annual meeting May 18. The program consisted of discussions on "Tuberculosis" by Miss Elsie Witchen, Secretary of Oregon Tuberculosis Association and James Seros of the Portland City Health Bureau; "Syphilis Control" by Samuel D. Allison, Director of the Division of Venereal Disease Control of the Oregon State Board of Health; and "Cancer Control" by Mrs. Frances Claggett Hosford, Commander of the Woman's Field Army on Cancer Control.

California Approves State Laboratory Only

The Oregon State Board of Health has been informed by the California Health Department that Oregon applicants for marriage licenses in California must have blood tests made either in approved California laboratories or in the Oregon State Hygienic Laboratory.

Bedding Manufacturers Organize

The Bedding and Upholstery Division of the State Health Department is sponsoring an organization of manufacturers of bedding and upholstery. The object of the organization is to enable the industry and the health department to work more closely together in the interests of public health.

Sanitary Authority Holds Hearing

The Oregon State Sanitary Authority on June 21 held a hearing, at which city officials of Portland were cited to show cause why the Sanitary Authority should not issue an order to the City of Portland, calling for the abatement of a nuisance created by the discharge of raw sewage into the waters of the State of Oregon.

At the conclusion of the hearing, the Authority resolved that the showing made and the plan presented were inadequate and that the city should proceed with a more comprehensive plan for engineering and financing of the proposed sewage disposal project.

CASE OF RUPTURE OF LACTEALS

An unusual case of rupture of one of the intestinal lymphatic glands (the lacteals, which take up the milky fluid called chyle from food after its digestion) is presented in *The Journal of the American Medical Association* for June 8 by Roland L. Maier, M.D., New York, who believes that this is the first acute case to be reported. His patient was perfectly well before the attack.

The attack consisted of severe abdominal pain. The patient was hospitalized and operated on. The preoperative diagnosis was perforation of the intestinal tract. When the abdomen was opened the lacteals were prominent and distended. Some chyle was spilled into the cavity. Observation at operation, Dr. Maier states, "suggests that there was a rupture of one of the lacteals caused by obstruction of the duct that collects chyle, with back pressure on the smaller lacteals. Whether or not the condition will recur remains to be seen, but to date the patient has had no symptoms."

BLOODLETTING FOR HEMOPHILIA

Bloodletting from a vein (venesection) kept a hemophilic patient or hereditary bleeder free of symptoms for seven years, George B. Lawson, M.D., Roanoke, Va., and A. B. Graybeal, M.D., Marion, Va., report in *The Journal of the American Medical Association* for June 8.

The patient was completely incapacitated because of joint symptoms (pain and swelling), nervousness and apprehension that occurred with the bleeding. Venesection, about once every six weeks, at the onset of symptoms kept the patient rather well for the seven years, except for discomfort in one knee. An x-ray of this knee showed cysts in the region of the knee cap and thigh bone.

The patient died about seven and a half years after the first venesection. The cause of death was reported as being due to "massive hemorrhage below the chin and contributory cerebral swelling brought about by an abnormal collection of fluid."

WASHINGTON STATE MEDICAL ASSOCIATION



FIFTY-FIRST ANNUAL MEETING, TACOMA, AUG. 26-28

ANNUAL MEETING OF STATE ASSN.

Everyone should keep in mind the annual meeting of Washington State Medical Association, scheduled for Tacoma August 26-28. This is a preliminary announcement concerning the meeting, details of which will appear in next month's issue of this journal. That will present the scientific program and other specific items with which all should be familiar. Herewith are presented some of the attractive features which ought to interest all members of the association.

Preparations are being made by the officers of Washington State Medical Association and Pierce County Medical Society to stage one of the biggest state conventions for the medical profession in many a year, according to word released by the state association office. One interesting feature being scheduled by Pierce County physicians is a salmon fishing derby, something new as far as the state meetings are concerned. The derby is under the direction of Lester S. Baskin, a fishing enthusiast, who spends his free moments at the other end of a fishing rod.

Dr. Baskin has arranged to care for thirty-five to forty guests aboard several light cabin cruisers and skiffs. He wishes it known that those interested in entering the fishing derby should write to him at the Western Clinic, Perkins Building, Tacoma, for reservations. Prizes will be awarded for every fish caught, regardless of size, Dr. Baskin says. The prizes will be given at Tacoma Golf & Country Club Monday evening, August 26, at the golfer's dinner which, in truth, will be a golf and fish dinner.

The first day of the meeting, Monday, will be devoted entirely to golf, fishing and sightseeing. There will, of course, be the golf Grand Sweepstakes on Sunday, August 25, at the Tacoma Golf & Country Club with a no-host dinner for all members at Winthrop hotel that evening.

Winthrop hotel will be general headquarters of the convention and the state association urges that those who haven't as yet made room reservations do so immediately. The hotel will handle all arrangements for city-wide reservations.

The Board of Governors of the Defense Fund will meet on Sunday afternoon at 4:30 o'clock at Winthrop hotel and at 6:30 o'clock there will be a meeting of the Board of Trustees of the State Association.

The House of Delegates will open its meeting Tuesday morning, beginning at 8 o'clock in the Crystal Ballroom of Winthrop hotel and meet again the following day, Wednesday, at 8:00 a.m. Wilmo D. Read of Tacoma will preside as Speaker at both sessions of the House.

One of the big events of the annual meeting is always the annual dinner and this year it will be held informally in the Crystal Ballroom of Winthrop hotel Tuesday evening at 7 o'clock with a cocktail hour preceding the dinner. Another interesting event scheduled will be the Public

Relations luncheon for Wednesday, August 28, at Winthrop hotel.

Interest in the coming state meeting has been mounting, according to word received at the state association headquarters, and hotel reservations at this early date have reached a hundred and fifty. Officers of the state association predict that there will be an attendance of a thousand physicians at this year's meeting.

All technical exhibit space has been taken with exhibits covering the entire Junior Ballroom and three-fourths of the main lobby of the hotel. There will be many interesting scientific exhibits and a scientific program lasting throughout two days of the meeting. The Neoplastic Committee has arranged for a special exhibit as well as the Tacoma Surgical Society. NORTHWEST MEDICINE will carry a complete program, with time and events, in next month's issue. Watch for it.

STATE DEPARTMENT OF HEALTH

Poliomyelitis Epidemic

The epidemic prevalence of poliomyelitis in Pierce County and Tacoma continues, although there is some indication that the peak may have been passed as there has been a decline in reported cases during the last two weeks. By June 26 a total of eighty cases had occurred in the area. Paralytic cases continued to be predominantly of the bulbar type, though less than one-fourth of the cases have suffered any paralysis. A total of nine cases have been treated in artificial respirators and seven deaths have occurred.

To date the only indication of spread of the epidemic to other areas has been the occurrence of one case in King County and one in Kitsap County, both of which had Pierce County contacts. Sporadic cases have been reported from Snohomish County and the Grand Coulee district.

An epidemiologic study of the disease is being carried on in Tacoma and Pierce County under direction of Don W. Gudakuntz, Medical Director for the National Foundation for Infantile Paralysis. Arrangements have also been made with the Hooper Foundation and the National Institute of Health to obtain virus studies on such necropsy material as can be secured.

Pollution Commission

The State Pollution Commission, of which Donald G. Evans, State Director of Health, is a member, recently published Bulletin No. 2, Pollution Series, "The Occurrence and Cause of Pollution in Grays Harbor." This hundred-page printed bulletin is available upon request to the State Department of Health, 1412 Smith Tower, Seattle.

Paul E. Seuffer, C.E., assistant public health engineer, has been granted a leave of absence from the State Department of Health for the remainder of the year to accept a temporary commission with the United States Public Health Service. He is to be assigned to stream pollution studies of the Ohio River System with headquarters at Cincinnati.

MEDICAL NOTES

HEALTH OFFICERS APPOINTED. H. G. Plut of Port Townsend was named acting County Physician of Jefferson County, replacing the late F. J. Delaney. Dr. Plut will also act as City Health Officer for Port Townsend. In Garfield County, P. D. Brink has been named County Physician and J. W. Sherfey, County Health Officer.

O'SHEA HEADS MEDICAL PREPAREDNESS ORGANIZATION. John O'Shea of Spokane was appointed a member of the Medical Preparedness Committee of American Medical Association at the recent meeting in New York. He will have charge of organizing the profession in the Northwest.

TUBERCULOSIS ASSOCIATION MEETS. Washington State Tuberculosis Association met at Everett May 20-22. W. B. Penney of Tacoma is president. The meeting was addressed by L. D. Woodford of Everett, Byron Francis of Seattle, S. L. Cox of the State Association, W. H. Lundy of Washington State College, David C. Hall of University of Washington, Harold Cramer of University of Idaho, Arthur B. Wade of Seattle Public Schools and John F. Steele of Tacoma.

PEDIATRIC MEETING. More than 150 pediatricians attended the meeting of the Western Branch of the American Academy of Pediatrics at Seattle May 30-June 1. San Francisco was chosen for the meeting place of the 1941 convention.

PROFESSIONAL SOCIETIES MEET. Physicians, pharmacists, dentists, nurses and public health nurses met at Pullman May 22, to discuss closer cooperation between professional groups. The meeting was sponsored by Whitman-Latah County Druggists Association and drew representations from many sections of the Inland Empire. H. E. Rhodehamel of Spokane was principal speaker.

RAILROAD SURGEONS MEET. Surgeons of the Great Northern Railroad Corporation held their annual convention in Spokane June 28-29. Speakers included Thomas L. Hawkins, Helena, Mont.; Ernest A. Lamb, Klamath Falls, Ore.; H. W. Power, Conrad, Mont.; Fred F. Attix, Lewiston, Mont.; R. C. Webb, Minneapolis; Carol Smith, J. W. Lynch, H. E. Wheeler, E. A. Addington, D. G. Corbett and Norman R. Brown, all of Spokane.

PROFESSIONAL WOMEN MEET. The Medical Women's Club of Seattle sponsored a meeting of the women physicians and women lawyers at Women's University Club, Seattle, May 25.

WEDDING. Adam Schlotthauer of Newport and Miss Lila Godfrey of Vera were married at Walla Walla June 2.

LOCATION. Arnold C. Tait, who interned at St. Luke's Hospital in Spokane last year, opened office for practice at Rosalia.

OBITUARIES

DR. FREDERICK T. HYDE of Port Angeles, Washington, died June 2 in Seattle General Hospital. He was 68 years of age. He was born May 22, 1872, in Brucetown, Virginia, and received his medical education at Harvard University Medical School, graduating in 1898. After receiving his medical degree, he spent two years at universities in Heidelberg and Vienna. Returning to the United States, he practiced a number of years in Boston and came to Port Angeles in 1912. He served with the medical corps of the army during the first World War and retired from practice in 1936.

DR. FRANCIS JOSEPH DELANEY of Port Townsend, Washington, died suddenly in his office June 10, age 61. He was born September 19, 1879, at Marion, Iowa, and received his premedical education at the State University of Iowa. His medical degree was granted by Creighton University School of Medicine in 1905. Following two years spent in foreign centers, he moved to Tacoma. After a period of practicing there, he spent two years in China, returning to Seattle where he practiced until 1917. He served with the army medical corps during the first World War and moved to Port Townsend in 1919. At the time of his death, he was City and County Health Officer.

DR. LE GRAND SPAULDING of Kennewick, Washington, died June 17, age 66. He received his medical education at California Eclectic Medical College, graduating in 1902. He was health officer of Benton County for eighteen years.

DR. THOMAS R. EVANS of Seattle, Washington, died June 19, age 66. He graduated from Jefferson School of Medicine in Louisville, Ky.

IDAHO STATE MEDICAL ASSOCIATION



FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPT 11-14

HEALTH OFFICERS' CONFERENCE. All Idaho Public Health Officers, together with their staff members, met at a two-day conference at Boise, May 24-25. General conference was held at the first part of the meeting which was later broken up into sections. Meeting was under direction of E. L. Perry, State Director of Public Health.

McMARTIN RESIGNS. H. L. McMartin, formerly director of Public Health, has resigned in order to accept position as director of Maricopa County, Arizona, Public Health unit.

CORONER APPOINTED. A. A. Newberry of Twin Falls was appointed coroner of Twin Falls County.

CANCER CONTROL GROUP. A committee of the Idaho State Medical Association sponsored a meeting of all interested in cancer control at Owyhee Hotel, Boise, May 27. It was held in conjunction with the Women's Field Army and J. M. Flude of Hollywood, medical representative of the American Association for Control of Cancer. W. F. Howard of Pocatello is chairman of the committee of the State Association and presided at the meeting.

LOCATIONS. H. J. Tikker of Caldwell has purchased the practice of L. F. West of Boise who has been called to active service in the U. S. Air Corps. Henry E. Randolph of Corpus Christi, Texas, will take over the practice of



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Dr. Tikker at Caldwell. Ivan A. Anderson, who was born at Mountain Home, has completed his internship at Emmanuel Hospital in Portland, and has located at Filer.

WEDDING. Roy E. Hanford of Sand Point and Miss Helen Heiner were married at Sand Point June 2.

BOOK REVIEWS

SPECIALTIES IN MEDICAL PRACTICE. Edgar Van Nuys Allen, M.D. Editor, Chief of Section in the Division of Medicine, The Mayo Clinic, Rochester, Minnesota, etc. 934 pp., 300 Illustrations. Two Volumes \$25. Thomas Nelson and Sons, New York., 1940.

There are thirteen contributors to these loose-leaf volumes, connected with medical schools and leading institutions in all parts of the country. This work is intended to be a ready source of information on the specialties and to answer most of the questions the specialist may ask about the other specialties. Volume I deals with ophthalmology, diseases of the ear, nose and throat, neurology, psychiatry, the vitamins and vitamin deficiency diseases, allergy and orthopedic surgery. Volume II consists of obstetrics and gynecology, endocrinology, urology, proctology, dermatology and syphilology.

All of the sections are presented in an excellent and logical manner and a persistent effort has been made to include the practical considerations with elimination of long theoretical discussions. The articles have the faults of condensation but the virtues of conciseness. The rapid advancements in the fields of endocrinology, vitamin diseases and allergy make a loose-leaf text of this type invaluable to the busy practitioner who must keep abreast of the new developments. This loose-leaf publication will without doubt usefully serve a broad field of need in the medical profession.

R. P. SMITH.

ILLUSTRATIONS OF BANDAGING AND FIRST-AID. Compiled by Lois Oakes, S.R.N., D.N. (Leeds and London.) Nursing Editor, Nursing Illustrated, etc. Illustrated with 290 photographs. 248 pp., \$2.00. The Williams & Wilkins Company, Baltimore, 1940.

The object of this book is to enable the reader quickly to master the art of bandaging and of first-aid in fractures and hemorrhages. There is an extraordinary profusion of illustrations. Throughout most of the book a page of text alternates with one of illustrations. Thus the application of the bandage is clearly presented for practically all conditions in which it will be utilized. Regardless of one's experiences in bandaging, he will find useful suggestions in this volume.

DIABETES. Practical Suggestions for Doctor and Patient. By Edward L. Bortz, A.B., M.D., F.A.C.P., Associate Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, etc. Second Edition revised and enlarged. Illustrated. 296 pp., \$2.50. F. A. Davis Co., Philadelphia, 1940.

It is stated there are a million diabetics in the United States, with another million and a half destined to develop the disease. Diabetes responds to treatment and need not shorten life. With proper care the patient may live longer than his calculated span, provided he has an intelligent understanding of the nature of the disease.

In this volume attention is called to recent researches on the glands of internal secretions and their relationship to

DR. LLOYD EDRESS OAKS of Twin Falls, Idaho, died at Denver, Colorado, June 10. He was 37 years of age. He received his medical education at Jefferson Medical College, Philadelphia, graduating in 1930 and had practiced in Twin Falls for the past six years.

this disease. A chapter on insulin presents the latest discoveries of its preparations and their administration. After a discussion of causes, symptoms and diagnosis, chapters are devoted to diabetes and pregnancy, complications, care of teeth, feet, diabetic surgery. This volume can be studied with profit, both by the physician and patient.

CHEMOTHERAPY AND SERUM THERAPY OF PNEUMONIA. By Frederick T. Lord, M.D., Clinical Professor of Medicine, Emeritus, Harvard Medical School, etc., Elliott S. Robinson, M.D., Ph.D., Director, Division of Biologic Laboratories, Massachusetts Department of Public Health, and Roderick Heffron, M.D., Medical Associate, The Commonwealth Fund, etc. 174 pp., \$1.00. The Commonwealth Fund, New York, 1940.

This volume presents as far as possible a complete summary of present theory and practice regarding the drug and serum therapy of pneumonia. There is a discussion of immunity factors, much space being given to sulfonamide derivatives with particular attention to sulfapyridine. There is a chapter on results of serum treatment, followed by discussion of its relative merits compared with sulfapyridine. On the basis of our present knowledge, it is stated that sulfapyridine appears to be not only a most useful remedy, but also one which is, on the whole, more efficacious than serum.

PSYCHIATRY FOR NURSES. By Louis J. Karnosh, B.S., Sc.D., M.D., Associate Clinical Professor of Nervous Diseases, School of Medicine, Western Reserve University, etc., and Edith B. Gage, R.N., Supervisor, Neuropsychiatric Division, City Hospital, Cleveland. Illustrated. 327 pp., \$2.75. The C. V. Mosby Company, St. Louis, 1940.

The purpose of this book is to familiarize oneself quickly with symptoms, terminology and treatment of the more common psychoses. Emphasis on the various mental ailments presented is in proportion to their frequency and importance. Beside discussion of the ordinary psychoses, shock therapies are given consideration. After a general discussion of mental diseases and management of the mental patient, chapters are devoted to individual psychoses, including those due to trauma, alcohol, brain tumors and other brain diseases. Following each chapter are appropriate references and a series of questions embodying the substance of previous discussions. From this volume one can obtain general psychiatric information without going into minute details.

THE NEW INTERNATIONAL CLINICS. Edited by George Morris Piersol, M.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania. Volume II, New Series three. 365 pp., \$3.00. J. B. Lippincott Company, Philadelphia, Montreal, New York, 1940.

This instructive and valuable volume presents original contributions on a variety of medical and surgical subjects, including empyema thoracis, thyrotoxic osteoporosis, pellagra therapy and others. More than half the volume is devoted to clinics by members of Rush Medical College of University of Chicago. Under "Review of Recent Progress," more than a hundred pages are devoted to the hypothalamus, its anatomy and clinical syndromes. One wishing the latest conceptions of this organ and its functions will read this with interest.

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Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

EDITORIALS

OUR THREE ANNUAL MEETINGS

The annual meeting is the highlight of the state medical association. It is the one occasion when members have an opportunity to assemble from all sections of the state, indulge in various forms of entertainment, renew acquaintances and absorb the latest scientific information presented by men who have made special investigations along definite lines of practice. In this issue are presented programs and information concerning the annual meetings of our three state organizations. These appear in the chronological order in which they are scheduled. Each program is arranged according to a plan which has seemed most desirable to the respective program committees.

The first meeting, that of Washington State Medical Association, will be in Tacoma August 25-28. The program presents quite a variety of diversions previous to the period of the scientific program. Contrary to custom of recent years, papers on the program are scheduled exclusively by members of the state association. It will be interesting to note the appeal of such a program to the members, and their response by way of attendance.

Oregon State Medical Society, scheduled for September 4-7, will meet at Eugene, in the beautiful, productive Willamette Valley. Some of the attractions and outstanding features of this section of the state are mentioned in connection with the description of this meeting. Attention is called to some of the features which should insure a large attendance at this time. The scientific program for this meeting offers an equitable inclusion of papers by guest speakers and members of the state society. Such an arrangement has always proved attractive in the past and doubtless will be so at this time.

Idaho State Medical Association will meet September 11-14 at Sun Valley. All who were privileged to attend the meeting in this lovely, unique location two years ago will wish to repeat that experience, and something is in store for all who have never visited this valley. For several years the Idaho Asso-

COLLEGE OF PHYSIC
OF PHILADELPHIA

ciation has devoted its annual meeting exclusively to a postgraduate course of lectures by members of the faculty of a medical school. There seems to have arisen a demand for participation in the program by members of the state organization. Accordingly there is scheduled an instruction course, in which topics are to be presented by certain members, with provision for general discussion. Whoever attends this meeting will be sure of definite satisfaction.

Details of the programs of these three meetings will be found under State Sections. It has always been customary to extend to the profession of the other states a cordial invitation to attend each of these state meetings. Such an invitation is hereby presented to all readers of this journal. It is hoped the privilege may be obtained to publish in future issues some of the papers presented at these three meetings.

MEDICAL DEFENSE ACTIVITIES

Chaotic world conditions will soon profoundly affect the medical profession. There is no question but that the life and activities of every medical man will soon feel the change. Regardless of the outcome of the European war, it appears that this country must and will rearm. Our position in world affairs depends upon our military strength, with which to back up our diplomatic measures. Fundamentally, this means that the country is going to work. We shall go to work regardless of the result of the November election, although the exact manner of our going may be altered by the presidential vote.

Defense plan calls for so much from industry that it will be necessary to put every available skilled laborer to work. Effects of this need for workmen are already being felt in industrial centers of the East. Since there have been practically no apprentices trained in any of the skilled trades during the past ten years, it is apparent that skilled workmen, as a group, are predominately older men. They will require more than ordinary medical care. Large numbers of young men will be taken for military training from the farms as well as industrial communities. This means that the agricultural population also will have an age shift and will also need some special care.

Expansion of army, navy and national guard activities will absorb large numbers of physicians from private fields. The public health service will also no doubt require many additional men. It has been estimated that nearly one-half of the doctors in this country will soon be engaged in some phase of defense activity, either civil or military. Many of the plans under way are still in a formative stage

and can not as yet be made public. The defense committee of the American Medical Association, which was appointed at the New York meeting, has had several meetings and has discussed every phase of the defense problem. One result is the questionnaire which every medical man has recently received and which should be returned at the earliest possible moment in order to expedite activity of this committee.

The country has been divided into certain zones with a member of this important committee in charge of each zone. Men chosen for these positions have had long experience in affairs of the American Medical Association and have many times demonstrated the value of their sound judgment. The Northwest zone includes Oregon, Washington, Idaho, Montana and Alaska. Medical defense in this zone will be under direction of John H. O'Shea of Spokane who has long served as delegate from the State of Washington and who for the past seven years has been a member of the five man Judicial Council of the American Medical Association.

While no one can at present predict what the next few months may bring, it is certain that changes will come. Within another month a great deal more may be reported, but in the meantime all that may be made public of the activities of the defense committee will appear in the *Journal of the American Medical Association*. These reports should be followed with great care.

NEW JOURNAL ON ALCOHOL

The latest addition to medical journal publications is *Quarterly Journal of Studies on Alcohol*, published in New Haven, Connecticut, under editorial direction of Dr. Howard W. Haggard. This journal appears under the supervision of the Research Council on Problems of Alcohol, incorporated January 5, 1938, an associated society of the American Association for the Advancement of Science. It is announced that the alcohol problem has become one of the major perplexities of our civilization. To find a way out can be only through development of a complete factual basis on which can be built an intelligent effective plan of action.

The Council has inaugurated three studies: (1) study of the role of alcohol in liver cirrhosis, conducted by the College of Medicine of New York University; (2) study on toxic factors in alcoholism under the New York State Psychiatric Institute; (3) critical survey of all work done to date on effects of alcohol on the individual, conducted at the New York Academy of Medicine by the

College of Medicine of New York University.

The scope of studies reported by this quarterly magazine is suggested by some of the titles in its initial number. They include "Personality Factors in Alcoholic Addiction," "The Influence of Alcohol on the Digestive Tract," "The Effects of Alcohol on the Normal and Pathologic Kidney," "Effects of Alcohol on the Individual." From these subjects it is noted that studies on the effects of alcohol are progressing along various lines of investigation. It is hoped these may result in some methods for practical reduction of the evil effects of alcoholism.

NOTABLE MEDICAL LIBRARY

Complete medical education requires an up-to-date medical school, a large general hospital and modern medical library, all established in close proximity. Such a comprehensive setup is presented by University of Oregon Medical School on Marquam Hill, Portland, the final stage of construction being represented by the medical library which was dedicated June 7. Hitherto the library had been housed in the medical school, with inadequate accommodations and overflow of books deposited in inaccessible storerooms.

Owing to the munificence of Dr. John E. Weeks, whose generous donation of \$100,000 was duplicated by the Rockefeller Foundation, with a similar sum from the government providing W. P. A. labor, a medical library has been constructed which completes the working equipment of this splendid medical school. The attractive lobby is fitting introduction to other features of the building. There is abundant space for reading rooms, spacious provision for medical journals, with abundant accommodation for the study of students. To the left of the lobby is the attractive and artistic auditorium with abundant seating and stage accommodations for any necessity which may be needed to meet all requirements of a library. Steel shelving for filing of books offers adequate provision for present needs, with opportunity for expansion for years to come. With this splendid addition to the medical school, it stands as one of the distinguished

medical educational institutions of the country.

As one enters the building, before him appears a large bronze basrelief of Dr. Weeks in profile, the work of the eminent sculptor Gabriel Lavare, presented by many friends of Dr. Weeks. Beneath it appears the inscription:

JOHN E. WEEKS, M.D., Sc.D., LL.D.
WHOSE GENEROUS DONATION MADE POSSIBLE
THIS BUILDING
PIONEER IN RESEARCH
RESTORER OF SIGHT
TEACHER OF TEACHERS
"LABOR OMNIA VINCIT"

SPECIALTY OF ANESTHESIA

The first twenty-five years of this century have sometimes been referred to as the "golden age of surgery." Striking developments were taking place, new operations being devised, new and vigorous names were making their appearance in the small but brilliant galaxy of stars. Advancement continues, but the advance of surgery itself is today more in refinement and improvement upon the technics already given us rather than the development of totally new operations. One of the phases of surgery which has made brilliant advance in the past few years has been the field of anesthesia. Here a new age is dawning, not only in refinements which have taken place, but in new methods and new materials which have appeared. It is indeed time that anesthesia should receive its due recognition as a specialty. A vigorous plea for such recognition was made at the Washington Univer-



UNIVERSITY OF OREGON MEDICAL LIBRARY

sity Extension Lecture Course by Richard B. Cattell of Boston, who cited need of the surgeon for services of a competent department of anesthesia in the hospital. He outlined some of the things which such a department, headed by a well-trained medical man, might do.

First, Dr. Cattell stated that a portion of the responsibility now borne by the surgeon must be released to the anesthetist who should decide, on the basis of his survey of the patient, just what type of anesthetic agent and what method of administration to be used. Dr. Cattell believes that the anesthetist himself should make a careful preoperative examination of the patient, should choose the agent and write the preoperative orders. He should be entirely responsible for postoperative care of complications that are due to anesthesia and should be able to recognize such complications in their incipient stages. He should be familiar with the use of the bronchoscope and laryngoscope. He should be able to remove fluid accumulations from the lungs by means of the bronchoscope and to use the laryngoscope for inserting tracheal catheter for intratracheal anesthetic. He should provide service with 100 per cent oxygen when needed for intestinal obstruction and should know the type of case in which such therapy should be effective.

Dr. Cattell believes that with such a department, headed by an alert well trained medical man, there would be better understanding of the problems of anesthesia by interns as well as staff members. He firmly believes also that improved anesthesia will result in improved surgery. Certainly every surgeon will agree with him that a well relaxed abdomen results in far less trauma and undoubtedly less postoperative difficulty than one in which there is a fight with tense muscles and protruding viscera. The necessity for careful study of anesthetics is attested by the fact that the Lahey Clinic, of which Dr. Cattell is a member, uses thirty-seven different agents for production of anesthesia. The rapidly growing importance of anesthesia as a specialty is also attested by the fact that the 1940 meeting of the American Medical Association, which recently met in New York, established for the first time a section on anesthesia. Certainly every hospital which expects to be called modern must soon develop the type of department which Dr. Cattell suggests.

ORIGINAL ARTICLES

IRRADIATION TREATMENT OF MALIGNANT SURFACE LESIONS*

SHERWOOD MOORE, M.D.

Professor of Radiology
Washington University School of Medicine
ST. LOUIS, MO.

Treatment of malignancies has as its objective the total eradication of the disease and, where this is unattainable, the patient must be so treated that the maximum duration of life and well-being is assured. Success in the first instance can be achieved only if the complete extent of the lesion is fully known. If successful eradication is out of the question, much palliation can be secured, even though the disease is advanced and its extent completely unknown. Eradication can be accomplished by surgery or irradiation or the two in combination. Both surgery and irradiation are handicapped by the fact that the extent of the disease cannot be exactly determined. The possibility of doing so is greater with surgery than with irradiation, and for that reason it is my opinion that surgery should be the first resort in the treatment of malignant tumor. If surgical excision is total, treatment will be successful. If the entire extent of the disease is irradiated throughout with the proper amount of ray, success will follow also.

At the present time it must be understood that the balance of evidence is that irradiation effects are of a quantitative and not of a qualitative character. It was formerly believed that irradiation effects were of a qualitative rather than of a quantitative character, and even now many authorities believe that its effects are a function of wave length rather than of intensity. However, the majority opinion today is that it is the energy absorbed which produces results. The delivery of the proper amount of radiation to the point where its action is desired to produce a successful result is always difficult and too frequently impossible.

There are several unknown factors in irradiation, one of them is the capacity of neoplastic tissues to react to a given quantity of irradiation. It is the experience of every radiotherapist that any amount of irradiation may be administered to certain tumors without producing any materially beneficial result. This is particularly true of melanoma, mixed

*From the Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, Saint Louis, Missouri.

*Read before Fiftieth Annual Meeting of Washington State Medical Association, Spokane, Wash., Aug. 28-30, 1939.

tumors and fibrosarcoma. It has been my experience that certain carcinomata, even of the skin, have been refractory to enormous doses of irradiation. On the other hand, I have not observed in the course of tumor irradiation any suggestion that this agency alone stimulates tumor growth. When apparent stimulation has been observed, there have been other factors in play.

In order to deliver the correct amount of radiation to a tumor, many methods have been and are employed. The nature of these maneuvers, especially in the case of roentgen rays, has been modified from time to time according to the improvement in roentgen equipment. Much confusion has existed in regard to the qualitative factor in irradiation. Where quality or penetration of rays is concerned, their effectiveness has been a matter of the penetration of such rays deep into the tissues rather than of any specificity of any particular wave length.

Among the maneuvers that have been employed, particularly in the days of equipment of low potential, have been the "cross fire" method, heavy filtration, variation of focal-skin distance, etc., the real objective in all of them being to have the rays reach the point where their action was needed. The implantation of radium, either element or radon, was intended to accomplish similar results. Because of the intense effects immediately adjacent to the implant, necrosis of tissue takes place to an extent that it imposes a limit to the size of the area which can be irradiated by this means. Another drawback to radium or radon implantation is the fact that to secure homogenous radiation throughout the tumor by these substances requires supreme accuracy in the implantation. Roentgenization can be far more evenly distributed than is the case with radium.

My thesis is that, given the proper amount (which is unknown) of irradiation throughout the extent of a tumor, successful management of the case can be accomplished. I propose to make brief references to the practices of irradiation of the past, its development, and to relate these to the latest current methods and principles of irradiation treatment.

The greatest success has always attended the treatment of external malignancies. This is true, first, because the whole extent of the lesion can be better and more accurately determined, and because the necessary amount of radiation can be delivered throughout the tumor. I shall endeavor to develop the point that, if deep lesions can be externalized

by surgical operation or through the natural course of bringing themselves to the surface by ulceration, equally good results can be obtained in a proportion of these cases with the principles which govern irradiation of lesions originating at the surface.

EARLY ROENTGENIZATION

Roentgenization of surface malignancies in the early days was done with daily administration of an unknown quantity of roentgen rays until a more or less intense reaction of the skin adjacent to the tumor was produced. This is to be remembered as it has a bearing on modern methods which will be referred to later. The limitations of roentgen tube and apparatus at this period were such that there was an excessive amount of soft radiation produced and absorbed, and this was capable of causing great damage to healthy, adjacent tissues. At a somewhat later period with more efficient apparatus and with rays of greater penetration, various types of filtration of the roentgen beam came into use, the intention being to lessen the damage just mentioned. Instead of giving daily doses until an intense reaction had taken place, the method was to give a single dose with the idea of producing the equivalent of a severe skin reaction, and to repeat this dose after the reaction subsided, usually six weeks later. This method, though valuable, left much to be desired. In certain cases the tumors became refractory in time with fibrosis and indolent ulceration which had not followed the daily method of treatment described above.

Roentgenologists were formerly too cautious in the matter of dosage. As a consequence of this caution, even many *surface* lesions were unsuccessfully treated. This was not the case with radium therapists. They were inclined to overtreat surface lesions and were more successful in curing them. However, there were frequent, indolent, painful ulcers—radium burns. Because of the low intensity or quantity of radium rays as compared with roentgen rays, and the fact that radium effects were more localized, and the application was far more direct to the tumor than could ever be the case with roentgen rays, disasters from this source, though equally severe as those from roentgen rays, were relatively limited in extent. The smaller the irradiation burn, the more readily it could be repaired.

Approximately twenty years ago I had the opportunity to observe in Blair's clinic and to note the successful surgical treatment of many examples of radium and roentgen burns and radiodermatitis, many of them in radiologists. Certain deductions were to be drawn from these observations: first,

prolonged exposure to irradiation in small quantity produce skin damage which frequently underwent malignant change. The same thing could happen, though this was unlikely, with a single massive exposure. This type of injury was more limited in extent from radium than from roentgen rays; second, irradiation of surface lesions was more successful with radium than with roentgen rays, and this was due to the fact that *more* ray was administered with the former than with the latter; third, radium irradiation could produce results with a single application instead of the prolonged roentgen method; fourth, burns from either could be successfully managed *if* they were limited in extent; fifth, results comparable to those achieved in radium therapy could be obtained with roentgen rays, provided equal intensity of ray was administered and this action equally limited.

These ideas led me to revise the roentgenization of carcinomas of the skin. The dose was estimated as a cauterizing one given at a single sitting. (There were no accurate measurements at that time.) This

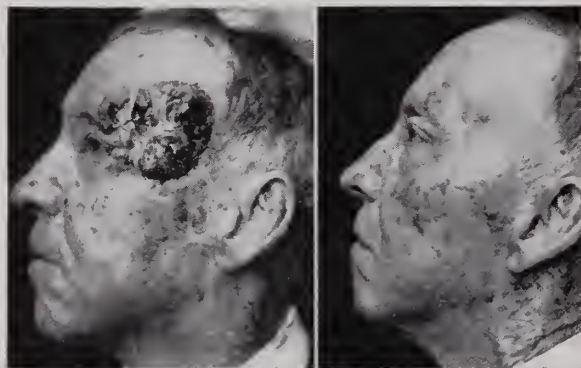


Fig. 1. Patient given 8 erythema doses, no filter, approximately 70 KV. Left before treatment. Right, two months later. Note perfect healing of marginal skin burns. Reproduced through courtesy of American Journal of Roentgenology and Radium Therapy.

constituted a combination of the early prolonged daily dosage, and the later single erythema method of treatment. Care was taken to see that only a small area of surrounding healthy skin received this dose, protection to the adjacent skin being secured with lead foil. In no case was an area burned which would be too large for excision or surgical repair, if the patient should suffer greatly from necrosis or other painful sequelae of excessive irradiation.

Another underlying thought in this method of treatment was to have the tumor serve, so to speak, as a filter and absorb all the softer rays at its surface (fig. 1).

SKIN-FLAP METHOD OF BLAIR

At a somewhat earlier period than that to which reference was just made, at the instance of Blair¹ an intraoral cancer with extensive cervical metastases was treated after the skin and subcutaneous tissues had been reflected from the inoperable mass of cancer (fig. 2). What was at that time considered a very large single dose of roentgen ray with the then low voltage was accordingly administered, following which the wound was closed. This treatment was in October, 1918. It was Blair's theory at the time, and quite properly, that with the low voltage of the apparatus, so much of the ray would be absorbed by the skin and subcutaneous fat, that little irradiation effect could be secured at the level of the tumor. A point in this method which was not



Fig. 2. Illustrating methods of irradiation of metastasis to neck with skin flaps retracted. Reproduced through the courtesy of Dr. V. P. Blair and Annals of Surgery.

counted on at the time, but which is now quite obvious, was that, had a comparable dose been administered to the skin, an intense radiodermatitis, with possibly a later roentgen skin cancer might have developed.

Because of the peculiar functions of the skin, particularly its being a sensory organ, radiodermatitis in all degrees is an extremely painful and dangerous complication. Roentgen cancer may and does follow radiodermatitis from either a massive dose given to the skin or from small increments of irradiation to the skin over a long period of time. It must be remembered, however, that all tissues can be and are damaged by roentgen radiation, but where there are no nerves of sensation, there is no pain from such damage. There is no reason to be-

1. Blair, V. P. and Brown, J. B.: Treatment of Cancerous or Potentially Cancerous Cervical Lymph-Nodes, Ann. Surg. 98:650-661, Oct., 1933.

lieve that late malignancies in tissues other than the skin and certain mucous membranes ever result from excessive roentgen radiation. This is not true as regards late radium effect, as sarcoma has followed radium treatment.

RATIONALE OF OPEN WOUND TREATMENT OF MALIGNANCIES

With the advent of the so-called higher voltage, 200 K.V., in the early 1920's, so much better results followed roentgenization that the open wound principle of the treatment of Blair was lost sight of. However, the results in the cases of metastases or extensions to lymph-nodes, particularly from intra-oral carcinoma, were extremely disappointing. In

sues. In consequence the higher voltage was abandoned for softer rays.

Up to this point the chief objective was to avoid skin damage through excessive roentgen dosage. Results indicated that there was insufficient ray absorption in the involved tissues to produce the effect sought for. The method was changed with the object of administering a larger amount of ray which would be absorbed where its action was wanted. The endeavor was to accomplish in deep-seated lesions what was done at an earlier date with carcinoma cutis. This type of treatment assured the maximum absorption of ray where its effect was wanted, with reduction of the dose administered to underlying, healthy tissues. The attempt was to make the tumor the chief absorbing medium of the roentgen rays.

In May, 1934, this method of treatment was



Fig. 3. Upper: Illustrates open wound with marginal protection of lead foil 1 mm. thick. Lower: Results of treatment at a later date. Reproduced through courtesy of American Journal of Roentgenology and Radium Therapy.

consequence the open wound method was revived and was applied to a series of cases with the high voltage apparatus, chiefly because it was shock-proof, though the voltage was lowered to 150 K.V. (fig. 3). The shock-proofing made it safe for the operative cases which were treated while under anesthetic. With more experience it was apparent that the higher voltages gave an excessive amount of damage to neighboring, deep-lying tis-

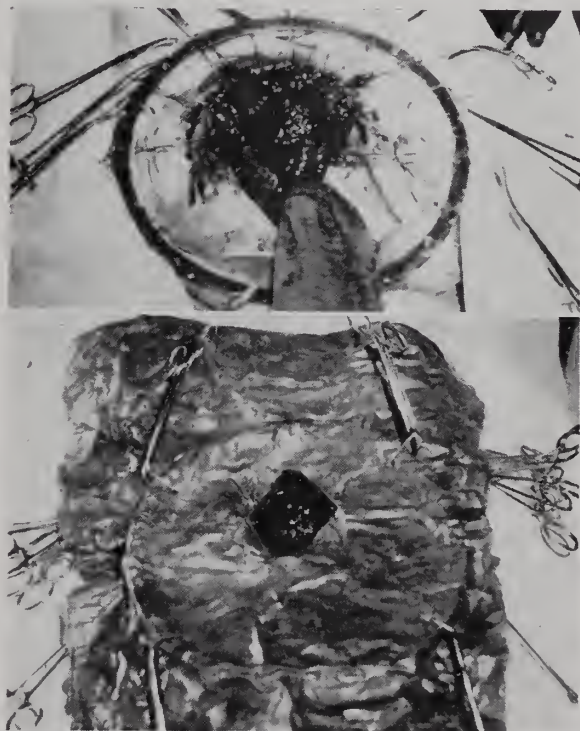


Fig. 4. Upper: Urinary bladder is held open and flattened by sutures extending from the Rose retractor. Lower: Illustrates the lead protection.

applied to a hopeless case of carcinoma of the bladder. The cystostomy was held open and its base flattened by a special retractor devised by Rose.² The patient had an uneventful recovery, and in the following July there was no evidence of the presence of bladder cancer to be found by cystoscopic

2. Rose, D. K.: Immobilizing Retractor which Allows Direct Exposure of Bladder Carcinoma to X-Ray Therapy. *J. Urol.* 33:664-668, June, 1935.

3. Sachs, E., Rubinstein, J. E. and Arneson, A. N.: Results of Roentgen Treatment of a Series of 119 Gliomas. *Arch. Neurol. & Psychiat.* 35:597-615, March, 1936.

examination. Unfortunately this patient succumbed to a remote metastasis at a later date (fig. 4).

In May, 1936, this same method of treatment was used on a case of brain tumor by Sachs and Furlow.⁸

TECHNIC AND DOSAGE

With lesions at the surface, a window is cut in a sheet of lead the size of the lesion, plus a margin of healthy skin which is judged to be beyond any extensions of the tumor. With lesions below the surface, the tumor is exposed by surgical operation. The wound margins are protected by a lead shield, and the tumor and an area of surrounding healthy tissue, just as is the case in surface lesions, are exposed to the ray.

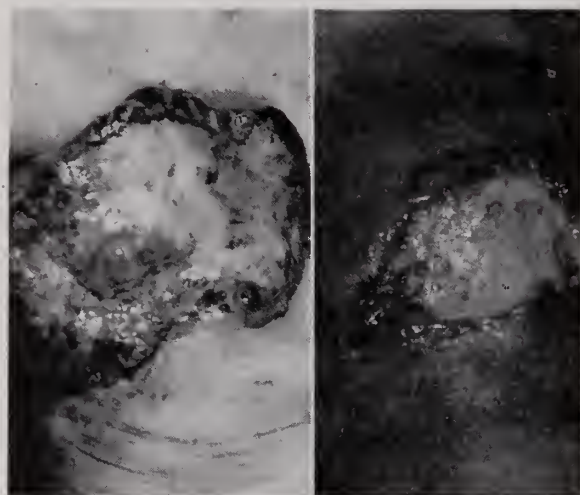


Fig. 5. Left: Huge, ulcerating carcinoma of breast of many years duration. Right: Result of intensive low-voltage followed by high-voltage roentgen therapy. This was a clean, granulating wound which subsequently healed. Patient died of heart attack several months after healing.

The dosage has been arrived at by the method of trial and error. In the cases of neck, axilla, bladder and brain, it was found that 6,500 roentgens produced the desired result. In the brain cases we have reduced the dosage by about half through fear of excessive amounts of rays reaching healthy brain tissue, where there has been a partial removal of tumor. The guide as to the quantity of ray to be administered is governed by the thickness of the tumor. It is to be borne in mind that this thickness and the proper dose are but rough estimates. The focal distance is the shortest obtainable in order to decrease the dose to deeper normal tissues.

With lesions at the surface there had been a tendency to increase the dosage. In certain cases of ulcerating breast cancer as high as 12,000 to 15,000 roentgen units have been given to each of several ports. In one case a total of 60,000 roentgens was administered and without any deleterious local or general effects.

We have found that in cancer of the breast with extensive ulceration this method of low voltage treatment to the ulcer, combined with the fractionated, deep therapy, is of great advantage (figs. 5 and 6). It is well to emphasize here that cases of breast cancer occurring before the menopause should be given a course of roentgen treatment to bring about cessation of ovarian function. We have had remarkably beneficial results from this method as has been the case with others.

TYPES OF CASES TREATED

We employ this method of low voltage, unfiltered roentgen treatment to all cases of cancer of the skin, with certain exceptions. Carcinomata about

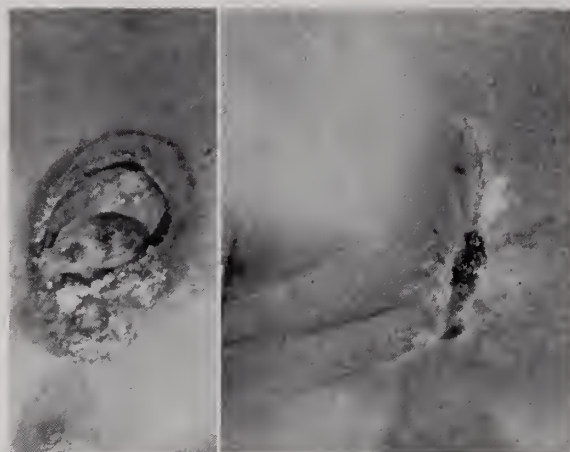


Fig. 6. Left: Intensive low-voltage radiation in inoperable carcinoma of the breast photographed when a mass of tissue was beginning to slough. Right: Final healing result.

the inner or outer canthus of the eye, the ala of the nose, the upper and lower lip and the auditory canal should, in our opinion, not be treated by irradiation but by surgery.

The lesions below the surface, which have been treated with this method, have all been advanced, inoperable types of cervical and axillary metastases, inoperable or only partially operable brain tumors, partially operable lung tumors, and inoperable, advanced cancers of the bladder.

Chamberlain⁴ of the General Infirmary at Leeds independently irradiated two inoperable carcinomas of the stomach through open laparotomy with the result that the tumors became operable.

The results of this principle of treatment, except at the surface, have not been encouraging. It can be said that in the ninety-nine cases treated, no patient's condition has not been made worse. Temporary benefit has been experienced by many cases, particularly those of the bladder. One such patient

4. Chamberlain, D.: New Method of Approach in Gastric Surgery, *Brit. M. J.*, 11:343, Feb. 23, 1929.

5. Coutard, H.: Zusammenfassung der Grundlagen der röntgentherapeutischen Technik der tiefegelegenen Krebse. *Strahlentherapie*, 37:50-58, 1930.

is now well, over two years after the treatment was given. A point to be considered here is that the least encouraging results have been in the cervical and axillary metastatic cases, and it must be remembered that lymphatic metastases or extensions are more refractory to any form of treatment than is the primary tumor, and that has been our experience in this method of treatment.

MODERN PRINCIPLES OF ROENTGEN THERAPY

In the first part of this paper, reference was made to the daily-dose method of the old time apparatus. About 1930, Coutard⁵ of Paris described his method of prolonged roentgen treatment of malignancies of the larynx and hypopharynx. In its essence it is the same principle as that first used in roentgen therapy except for higher voltage. His method permits the administration of enormous doses of roentgen ray. These enormous doses result in exfoliation of the superficial layers of skin and mucous membranes. His results certainly justify his methods. It should be remembered, however, that the so-called Coutard treatment is not a fixed method, as Coutard individualized the treatment of every case. He represents a swing away from the principle of the single massive dose treatment repeated at intervals. He is theoretically sound, and his belief is that, if the dose is prolonged over a period of time, cells in process of division, at which time they are most vulnerable, are more easily destroyed than is the case when a single dose is given.

ADVANCES IN PRINCIPLE OF LOW-VOLTAGE ROENTGEN THERAPY

A few years ago Chaoul⁶ of the University of Berlin invented a shock-proof roentgen tube, especially constructed with the target at the end of the tube, which can be applied directly to surface lesions and in certain natural cavities of the body or those made by surgical operation. It embodies the same principle with which we have worked in our clinic for the last several years, but it has this advantage, it permits administration of an enormous amount of ray in a very short time under much better control, and through close proximity of the target to the lesion, a greatly decreased depth dose to underlying, healthy structures.

The Chaoul, or contact, roentgen therapy will undoubtedly come into wide use, for it does satisfy the fundamental requirement of delivering the maximum amount of ray where its action is desired and restricts the amount received by underlying tissues.

THROMBOANGIITIS OBLITERANS

T. J. FATHERREE, M.D.

AND

CECIL HURST, M.D.

SOAP LAKE, WASH.

Thromboangiitis obliterans, more commonly known as Buerger's disease, is a chronic, progressive disease, involving peripheral arteries, veins and nerves, and to a lesser extent, vessels of internal organs. No one has ever made an accurate study of the incidence of this disease, though it can be said safely that it is not common. No one can estimate the suffering and tragedy, the loss of time and earning power that is caused by this dreadful malady.

ETIOLOGY

The cause of Buerger's disease is unknown, although many causative factors have been suggested, among which may be mentioned tobacco, ergot, focal infection, typhus fever, frostbite, glandular dysfunction, insect bite and a specific organism (Rabinowitz).¹

Many students have been impressed by the possibility that bacteria or their toxins are important etiologic factors, but no one has been able to establish any one organism or toxic substance as the primary etiologic agent. Silbert² is the outstanding proponent of the view that tobacco is specifically responsible. However, neither he nor anyone else has ever been able definitely to establish tobacco as the primary causative factor. On the other hand, numerous investigations have revealed that smoking tobacco produces a peripheral vasoconstriction, and it is generally believed that it is harmful to patients with Buerger's disease.

There are certain secondary factors of etiologic importance. The disease attacks males predominantly (98 per cent) and is most prevalent between the ages of 30 and 50 (70 per cent) (Mayo Clinic series³). Exposure to cold and trauma are undoubtedly aggravating factors. It has become apparent now that the disease occurs in practically every civilized race, and there is some doubt as to whether it occurs more frequently in Jews than in other races.

PATHOLOGY

Thromboangiitis obliterans is usually thought of as being exclusively a disease of peripheral vessels. However, the belief has been growing in recent years that it may be of general distribution, and not local-

*Read before a meeting of Pierce County Medical Society, Tacoma, Wash., Dec. 12, 1939.

1. Rabinowitz, H. M.: Experiments on Infectious Origin of Thromboangiitis Obliterans and Isolation of Specific Organism from Blood Stream. Surg., Gynec. & Obst., 37: 353-360, Sept., 1923.

2. Silbert, S.: Amputations in Thromboangiitis Obliterans. Surg. Clin. North America, 18:389-403, April, 1938.

3. Horton, B. T.: Outlook in Thromboangiitis Obliterans. J.A.M.A., 111:2184-2189, Dec. 10, 1938.

6. Chaoul, H. and Adam, A.: Die Röntgen-Nahbestrahlung malignen Tumoren, Strahlentherapie, 48:3-50, 1933.

ized in the extremities. Recent investigations have indicated that the lesions may occur in vessels of the internal viscera, particularly those of the brain, heart and abdomen.

The gross pathologic changes in the extremities consist of induration of the adventitia, adherence of the artery, vein, nerve and segmental distribution of the occlusive lesions. Frequently in the latter stages of the pathologic process the artery, veins and nerves are almost inseparably bound together and the vessels may be reduced to fibrous cords.

Microscopic changes in the adventitia consist of early lymphocytic infiltration of the vessels, increase in density of connective tissue of the adventitia and surrounding tissue, and increase in size of the vasa vasora. In the media lymphocytes are present at times, blood vessels are seen in the media itself, and there is increase in the connective tissue of the media, this being more marked in the veins than arteries. There is marked thickening of the intimal portion of the arteries, this being a characteristic part of the lesion. Also, frequently there are lymphocytes within the intima and increase in the amount of elastic tissue in this part of the arterial wall. Thrombosis is frequently present with recanalization. Lymphocytes are frequently present within the organized thrombus, while it is rare that polymorphonuclear leukocytes are seen. In the nerves there is an increase in density of the surrounding connective tissue, myelin degeneration, lymphocytic infiltration, and thrombosis of the vessels within the nerves.⁴ (figs. 1, 2).

Generally speaking, there are two points of view concerning origin of the lesions. As exemplified by Telford and Stopford,⁵ certain investigators believe that the pathologic changes are preceded and instigated by episodes of vasospasm. On the other hand, it is believed by others, for instance Mahorner, that the initial lesion is a chronic, inflammatory one, involving the walls of the vessels. The preponderance of opinion is in favor of the latter view, although it is impossible to prove that vasospasm is not the initial disturbance.

SYMPTOMATOLOGY

Approximately 75 per cent of cases of thromboangiitis obliterans follow a fairly uniform clinical course, which can be divided into several stages. The first stage is the period of claudication which

manifests itself symptomatically by abnormal and excessive fatigue or pain following exercise. The feet are usually cold, and the nails grow slowly. This stage is followed by, or associated with, postural color changes. Frequently superficial phlebitis is also present. Rest pain, which is usually more severe in the toes and may be very excruciating,

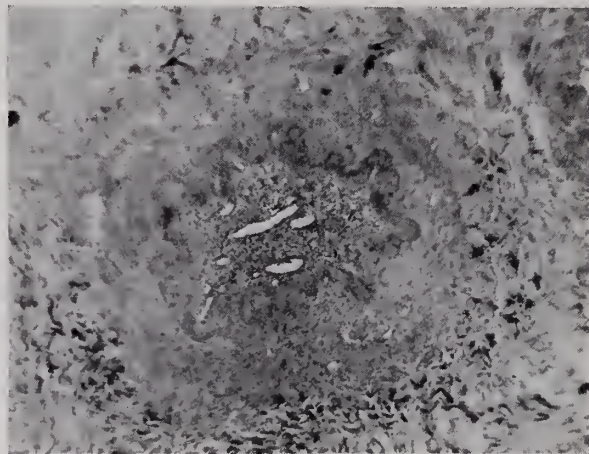


Fig. 1. Photomicrograph of artery taken from amputated leg of patient with thromboangiitis obliterans. Numerous lymphocytes and polymorphonuclear leukocytes are visible in organized and canalized tissue occluding the lumen of the vessel. Small vessels are also visible in the media.

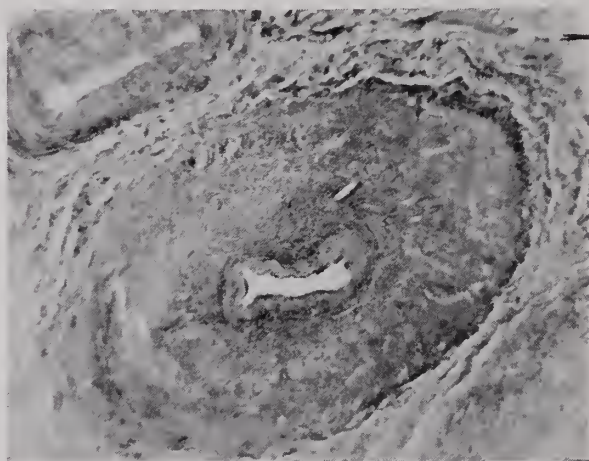


Fig. 2. Photomicrograph of artery taken from amputated extremity of patient with Buerger's disease. There is marked intimal hyperplasia with reduction of lumen of the artery to approximately one-third its normal size. Marked increase in fibrous tissue of the adventitia is well demonstrated in this picture.

may occur at this time. The next stage is signaled by the presence of frank trophic tissue changes such as ulcers, fissures, nonhealing incisions or gangrene associated with severe and continuous pain. Edema of the feet is usually associated with these open lesions. The total time of development for all of the foregoing stages varies from one to ten years, averaging usually about five years.

4. Brown, G. E., Allen, E. V. and Mahorner, H.: *Thromboangiitis Obliterans*. W. B. Saunders Company, Philadelphia, 1928.

5. Telford, E. D. and Stopford, J. S. B.: *Thromboangiitis Obliterans, with Special References to Its Pathology and Results of Sympathectomy*. Brit. M. J., 1:863-866, April 27, 1935.

Although this clinical picture is the usual one, there are many exceptions. One variation of the usual clinical course is that in which the process seems to involve only the veins. This type is characterized by recurrent superficial phlebitis. However, it is probable that ultimately arterial occlusion develops in all of these cases.

Another variation is that in which the peripheral arteries are all pulsating normally, and yet there is evidence of occlusive vascular disease involving the digits. In these cases the involvement is in the digital arteries, and this type of case can be very easily overlooked.

It is not infrequent that the vasospastic symptoms are the most predominant ones, and these may be present without any evidence of occlusive arterial disease. Buerger's disease may be associated with arteriosclerosis of peripheral vessels, and at times it may be difficult to determine whether the disease is primarily one of Buerger's disease or arteriosclerosis obliterans. Another very distressing variation from the usual picture consists of severe rest pain without trophic disturbances, and in such cases amputation is occasionally necessary for pain alone.

Acute arterial occlusion is not an infrequent happening during the course of thromboangiitis obliterans. The onset is sudden, with pain, pallor and coldness of the extremity. If collateral circulation is not sufficient to compensate for this occlusion, gangrene of varying extent occurs. Complications, with the exception of conditions involving the cardiovascular system, are not common. Fifteen and one-half per cent of Horton's 948 patients had hypertension. Diabetes is uncommon, only being present in approximately 1 per cent of Horton's series. Fungus infections of the feet may lead to open lesions. Characteristically the patients are stable emotionally, and it is rare to see one who exhibits stigmata of a neurosis. Morphine addiction and alcoholism are not common, although they do occur (fig. 3).

DIAGNOSIS

Diagnosis in the vast majority of cases is a relatively simple matter. First, one has to consider the age and sex of the patient, since 98 per cent are men and 70 per cent are between the ages of thirty and fifty. Diagnosis in individuals, whose symptoms have begun after the age of fifty, has to be made with a considerable amount of caution. Any man between the ages of twenty and forty-five, who develops intermittent claudication, particularly in association with occlusion of one or more of the peripheral arteries of the feet or forearms and a

history of superficial phlebitis, and in whom there is no other apparent cause for arterial occlusion, is likely to have thromboangiitis obliterans.

Palpation of the arteries of the extremities is an important procedure in making the diagnosis. In this connection an error which is frequently made is palpation of the arteries, particularly those of the feet, when they are cold. Not infrequently it will happen that one is unable to feel the posterior tibial and dorsalis pedis arteries when the feet are cold, whereas if they are placed in warm water for ten or fifteen minutes before the examination is made, the arteries are felt to pulsate normally.

A simple test, which is of great value in differential diagnosis, is the reactive hyperemia test. Another simple test utilizes the postural color changes which occur in the warm foot. By means of these simple measures it is possible to diagnose the vast majority of cases.

Visualization of calcification in the peripheral arteries by means of the roentgenogram is of importance, particularly in those individuals between the ages of forty-five and fifty-five, when there is

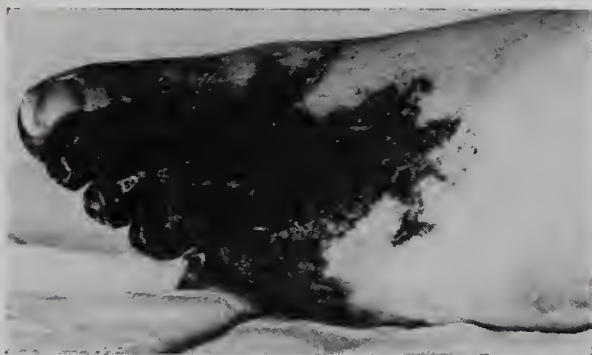


Fig. 3. Photograph of foot of patient with Buerger's disease, showing gangrene which developed following acute arterial occlusion.

a question of differentiating thromboangiitis obliterans from arteriosclerosis obliterans. In this connection it must be remembered that thromboangiitis obliterans may occur in association with calcification of the peripheral arteries, and that atherosclerosis may lead to occlusion of the peripheral arteries in absence of calcification in the peripheral arteries, as demonstrated by roentgenogram.

Ordinarily, the differential diagnosis is not difficult. One has to consider chiefly the group of diseases resulting from organic changes in the peripheral arteries and the arterial diseases of a functional nature. Functional or vasomotor diseases of importance are Raynaud's disease, acrocyanosis, cervical rib with vasomotor symptoms and erythromelalgia. Organic diseases of the peripheral arteries which merit consideration in the differential

diagnosis are ergotism, forms of arteritis occurring in systemic infections, arteriosclerosis with and without diabetes, the traumatic group consisting of those occlusive lesions resulting from physical factors such as embolism, frostbite, contusions, lacerations, etc. and arteriovenous fistula. Furthermore, certain diseases of the veins and the lymphatics have to be considered in differential diagnosis. In this connection thrombophlebitis, varicose ulcers and lymphedema are the most important conditions.

Differentiation of occlusive from functional arterial disease ordinarily is not a difficult problem. In functional types all peripheral arteries are pulsating normally, particularly when the part examined is warm. Postural and reactive hyperemia tests give no indication of arterial occlusion, whereas in the occlusive types the opposite results are obtained by these tests. Many other procedures have been described for differentiation of vasospastic and occlusive arterial disease. An outline of these procedures for determining the effects of vasospasm on the peripheral blood supply is given in tables 1 and 2.

- I. Interruption of sympathetic impulses by analgesia or anesthesia
 - A. Localized (procaine hydrochloride)
 1. Peripheral nerves
 2. Spinal cord
 3. Sympathetic ganglions
 - B. General anesthesia
 1. Inhalation
 - (a) Ether
 - (b) Nitrous oxide
 2. Intravenous
 3. Rectal
- II. Inhibition of sympathetic tone
 - A. Physical (heat)
 1. Indirect: Injection of foreign protein
 2. Direct application
 - (a) Generalized: Increased environmental temperature
 - (b) Localized
 - (1) Involved area
 - (2) Uninvolved area
 - B. Physiologic: Reactive hyperemia
 - C. Pharmacologic
 1. Alcohol
 2. Nitrites

Table 1. Procedures for Studying Vasospasm. (After Ochsner and DeBakey.)

- I. Calorimetric
 - A. Thermocouple
 - B. Mercury thermometer
- II. Oscillometric
 - A. Pachon's method
 - B. Recording
- III. Plethysmographic
 - A. Arterial
 - B. Arteriolar
- IV. Vascular visualization
 - A. Direct: Microscopic examination of capillaries
 - B. Indirect: Arteriograms

Table 2. Methods of Determining Effect of Vasospasm on the Peripheral Blood Supply. (After Ochsner and DeBakey.)

6. Ochsner, A. and DeBakey, M.: Rational Consideration of Peripheral Vascular Disease Based on Physiological Principles. J.A.M.A., 112:230-236, Jan. 21, 1939.

Ordinarily most of these tests are not necessary to establish the diagnosis. They are of more importance when there is a question of determining the amount of vasospasm which exists in connection with an occlusive arterial lesion, particularly with regard to performance of sympathectomy.

OUTLOOK

Recently Horton has made a valuable study of a large number of patients with thromboangiitis obliterans, and has given a fairly clear picture of what one might expect in a group of these individuals over the course of several years. His group consisted of 948 cases. From his study it would appear that approximately 70 per cent of patients will not require amputation during the first three years of the disease, and 60 per cent will not require it within the first five years. By the end of ten years approximately 60 per cent of all patients will have had amputations.

CAUSE OF DEATH

The most common cause of death is coronary thrombosis. Of 175 patients in The Mayo Clinic series who died, 27 per cent died from coronary occlusion, while approximately 38 per cent died of vascular accidents. Silbert attributed death to coronary thrombosis in 38.5 per cent of his cases. Fatherree and Hines⁷ reported that 73 per cent of the patients in their series died of vascular accidents, the large majority of which were coronary occlusion. There can, therefore, no longer be any doubt that patients with thromboangiitis obliterans are particularly liable to vascular accidents in general, and coronary occlusion in particular.

TREATMENT

There is no specific treatment. Hence, all types of treatment are directed at preventing and relieving symptoms rather than eliminating the fundamental cause of this disease. The five major objectives in treatment are: first, improvement of the circulation; second, prevention of ulceration and gangrene; third, healing of ulceration and combating associated infection; fourth, relief of pain; and fifth, ablation of devitalized tissues.

Preventive measures. Care of the feet is one of the most important measures in prevention of serious sequelae. The feet should be cleansed daily, woolen socks should be worn, great care should be taken with regard to the nails, tightly fitting garters should be avoided, and protection against trauma of all sorts should be uppermost in the patient's mind at all times. Epidermophytosis is a constant threat, and measures should be taken to

7. Fatherree, T. J. and Hines, E. A., Jr.: Fatal Complications of Thromboangiitis Obliterans. Proc. Staff Meet. Mayo Clin., 13:342-347, June 1, 1938.

avoid serious sequelae which may result from this usually innocuous disease.

Improvement of the circulation. Circulation can be improved mainly by eliminating vasospastic influences, both by avoidance of those factors which increase vessel spasticity, and by institution of measures which actively lead to vasodilation. The two most important vascular spasmogenic factors are exposure to cold and tobacco smoking. As far as is possible both of these factors should be eliminated. Vasodilation may be obtained in a number of ways. The more conservative means of producing it are use of vasodilating drugs and physical therapeutic measures such as radiant heat, short wave diathermy, massage, postural exercises, hydrotherapy, suction and pressure treatment, intermittent venous occlusion and the oscillating bed. More radical methods are sympathectomy, vein and artery ligation, arteriectomy, peripheral nerve section and paravertebral sympathetic nerve block.

Use of drugs to produce prolonged or permanent vasodilation has not been found very successful. Many different drugs have been suggested, among which may be mentioned acetyl salicylic acid, alcohol, papaverine hydrochloride, choline derivatives, theobromine and its derivatives, thyroid extract, hypertonic saline solution intravenously, nonspecific protein, local anesthetics and several others. Vasodilation produced by all these measures is only temporary. The two which have established themselves as being of considerable importance are hypertonic salt solution and nonspecific protein.

Intravenous injection of hypertonic saline solution constitutes the best type of therapy for patients with Buerger's disease as judged by published reports. Samuels,⁸ who is one of the chief advocates of this type of treatment, has recently reported a series of 300 cases with only one major amputation. Silbert⁹ also has recently reported a series of 687 cases which he has followed for periods varying from one to thirteen years. Only 6.4 per cent, as far as he could determine, had had amputation. Both of these authors laid great stress on cessation of smoking. As far as we can determine, these two reports represent the best therapeutic results by far which have ever been obtained in nonselected groups of patients.

For comparison, McKittrick¹⁰ has reported that approximately 30 per cent of patients admitted to

the Massachusetts General Hospital from 1929 to 1939 had major amputations. Approximately 22 per cent treated at The Mayo Clinic had amputations. Many authorities still use hypertonic saline little or none.

Use of nonspecific protein therapy in the form of typhoid vaccine intravenously is widely used. Barker¹¹ reported 150 patients treated with this method. He concluded that it was of little benefit in treatment of claudication. It relieved approximately one-half of the patients suffering with ischemic neuritis alone. It led to healing in approximately one-half of those with simple ulcers, and was also efficacious in the treatment of gangrene limited to the digits. In patients with massive gangrene this treatment, like most others, was not found to be effective.

Induction of certain drugs, particularly choline derivatives, into the skin by means of galvanism has recently been used. Although some favorable results have been reported, the experience with this drug has been insufficient as yet to evaluate it.

Among physical methods of inducing vasodilation radiant heat and contrast baths have established themselves by virtue of usage over a period of many years, although it is difficult to say how much good such therapy does. More recently induction of peripheral vasodilation by means of short wave diathermy has been used with considerable success, although the value of such treatment has not yet been fully established. Hydrotherapy is used also to a considerable extent, both for its vasodilating effect and its effect upon the ulcers themselves. Physical methods which have received most attention in recent years are suction pressure, treatment by intermittent venous occlusion and by means of the oscillating bed.

Treatment by means of suction pressure methods was introduced in 1933 almost simultaneously by Herrmann and Reid¹² and by Landis and Gibbon.¹³ When this was first introduced, high hopes were held for it in all quarters. Excellent results were reported by Herrmann and Reid, Landis and Hitzrot¹⁴ and others. The experience at The Mayo

11. Barker, N. W.: Results of Treatment of Thromboangiitis Obliterans by Foreign Protein. J.A.M.A., 97: 841-843, Sept. 19, 1931.

12. Reid, M. R. and Herrmann, L. G.: Treatment of Obliterative Vascular Disease by Intermittent Negative Pressure Environment. J. Med., 14:200-204, June, 1933.

13. Reid, M. R.: Diagnosis and Treatment of Peripheral Vascular Disease. Am. J. Surg., 24:11-15, April, 1934.

14. Landis, E. M. and Gibbon, J. H., Jr.: Effects of Alternate Pressure and Suction on Circulation in Lower Extremities. Proc. Soc. Exper. Biol. & Med., 30:593-595, Feb., 1933.

15. Landis, E. M. and Hitzrot, L. H.: Clinical Value of Alternate Suction and Pressure in Treatment of Advanced Peripheral Vascular Disease. Am. J. Med. Sc., 189:305-325, March, 1935.

8. Samuels, S. S.: Gangrene due to Thromboangiitis Obliterans. J.A.M.A., 102:436-442, Feb. 10, 1934.

9. Silbert, S.: Treatment of 524 Cases of Repeated Intravenous Injections of Hypertonic Salt Solution. Surg., Gynec. & Obst., 61:214-222, Aug., 1934.

10. McKittrick, L. S.: Diagnosis and Management of Chronic Obliterative Vascular Disease. J.A.M.A., 113: 1223-1227, Sept. 23, 1939.

Clinic led Allen and Brown¹⁵ to state that they were unable to secure any better results with this than with more simple methods of treatment. Samuels has recently stated that he does not believe suction and pressure treatment adds a great deal. DeTakats¹⁶ has stated that results have been doubtful as far as treatment with this method is concerned. All in all, it appears that the use of suction and pressure therapy is rapidly losing ground. Most certainly in the six years since its introduction its position is not established firmly as a major advance in the treatment of this disease.

In 1936 Collens and Wilensky¹⁷ introduced intermittent venous occlusion in treatment of peripheral vascular disease. The most comprehensive report to date on this method has been made by these authors¹⁸ who have treated 137 cases, 34 of which were thromboangiitis obliterans. They have reported excellent results, particularly in relief of pain and healing of ulcers. Eighty-three per cent of patients with rest pain were relieved within forty-eight hours, and 91 per cent with ulcers were either healed or were healing at the time of the report. Brown and Arnott¹⁹ have also reported favorably on this type of treatment. The reports are as yet insufficient, and the time of observation not long enough to completely evaluate this method.

Recently Sanders²⁰ has devised an oscillating bed which automatically and rhythmically elevates and lowers the extremities, and favorable reports are now beginning to appear concerning the use of this device. Barker²¹ recently has reported eighty-eight cases of occlusive vascular disease treated with this method. He has found that the most striking therapeutic effect seems to be relief of pain. However, the pain is frequently only temporarily relieved. His general conclusion was that this is a valuable addition to our therapeutic armamentarium. It is doubtful if this method will constitute a marked advance in treatment, inasmuch as the principle has been utilized for many years in postural exercises as suggested by Buerger.

That sympathectomy is efficacious and of definite

therapeutic value in selected cases has been demonstrated satisfactorily by several capable investigators. This is based on the rationale that there is a certain amount of vasospasm present which, if eliminated by interruption of the sympathetic nerves to the part, will result in an improvement in the circulation. Hence, selection of cases suitable for sympathectomy depends upon the degree of vasospasm which may be demonstrated preoperatively. It is not indicated in those cases in which adequate vasodilation cannot be so demonstrated.

Of the various types of sympathetic operations which have been suggested, sympathetic ganglionectomy is undoubtedly the method of choice. Adson and Brown²² reported a series of 104 cases treated by ganglionectomy. Of this group 83 per cent returned to gainful occupations. Amputation of the extremity was necessary in 4 per cent of the cases. Telford²³ reported that of his patients treated by ganglionectomy 50 per cent of the results were satisfactory, 25 per cent improved and 25 per cent were failures. Harris,²⁴ Ross,²⁵ Diez,²⁶ Leriche²⁷ and others have reported favorable results in over half of the cases. On the other hand, certain investigators, notably Silbert and Samuels, hold that sympathectomy is not indicated. Nonetheless, it would appear that it has a definite place in treatment of this disease in selected cases.

Healing of ulceration and the combatting of associated infection. Healing of ulceration and associated infection is combated by physiologic rest of the part, use of bland ointments and solutions, and induction of vasodilation by the above-mentioned methods.

Relief of pain is always a major factor in treatment. Narcotics are frequently necessary. Alcohol is a valuable analgesic. In 1922 Silbert²⁸ suggested cutting the peripheral nerves which supply the feet, thus making the foot anesthetic. There are five nerves superficially located which supply the feet; the posterior tibial, superficial and deep peroneal, saphenous and sural. This method of treatment is of value at times, and constitutes one of the definite

15. Allen, E. V. and Brown, G. E.: Intermittent Pressure and Suction in Treatment of Chronic Occlusive Arterial Disease. J.A.M.A., 105:2029-2039, Dec. 21, 1935.

16. DeTakats, G.: Management of Peripheral Vascular Disease. Arch. Phys. Therapy, 19:88-96, Feb., 1938.

17. Collens, W. S. and Wilensky, N. D.: Intermittent Venous Occlusion; Preliminary Report. Am. Heart J., 11: 705-720, June, 1936.

18. Collens, W. S. and Wilensky, N. D.: Intermittent Venous Occlusion in Peripheral Vascular Disease. Arch. Phys. Therapy, 19:261-271, May, 1938.

19. Brown, J. J. and Arnott, Wm.: Treatment of Obstructive Vascular Disease by Intermittent Venous Occlusion. Brit. Med. J., 1:616-618, March 19, 1938.

20. Sanders, C. E.: Cardiovascular and Peripheral Vascular Disease. Treatment by Motorized Oscillating Bed. J.A.M.A., 106:916-918, March 14, 1936.

21. Barker, N. W.: Use of Oscillating Beds in Treatment of Peripheral Occlusive Arterial Disease. Proc. Staff Meet. Mayo Clinic, 14:618-619, Sept. 27, 1939.

22. Adson, A. W. and Brown, G. E.: Thromboangiitis Obliterans; Results of Sympathectomy. J.A.M.A., 99:529-534, Aug. 13, 1932.

23. Telford, E. D.: Sympathectomy. (Review of 100 Operations). Lancet, 1:444-446, March 3, 1934.

24. Harris, R. I.: Role of Sympathectomy in Treatment of Peripheral Vascular Disease. Brit. J. Surg., 23:414-424, Oct., 1935.

25. Ross, J. P.: Results of Sympathectomy. Analysis of Cases Reported by Fellows of Association of Surgeons. Brit. J. Surg., 23:433-443, Oct., 1935.

26. Diez, M. J.: Le Traitement de la Thromboangeite Obliterante des Membres Inferioro par la Resection de Sympathique Lombar. J. de Chir., 37:161, Feb., 1931.

27. Leriche, R.: Einige Bemerkungen über 1199 Operationen am Sympathicus. Archiv f. Klin. Chir., 186:338, Oct., 1936.

28. Silbert, S.: New Method for Treatment of Thromboangiitis Obliterans. J.A.M.A., 79:1765-1766, Nov. 18, 1922.

advances which have been made in recent years in treatment of this disease.

Recently Naide²⁹ has advocated the use of vitamin B₁ intravenously for relief of pain, particularly that of the ischemic neuritic type. Our personal experiences with this method have been rather disappointing.

Tissue extracts in treatment of intermittent claudication have been used for the past thirteen years. Frey and Kraut³⁰ first introduced an insulin-free pancreatic extract, later known as padutin. Recently Fisher, Duryee and Wright³¹ have reported on a deproteinized pancreatic extract called depropanex. Following ten or more injections of this substance into nineteen patients with arteriosclerosis obliterans, all showed an increase in their claudication time, the average being more than three times that of the controls.

Ablation of devitalized tissue. This is accomplished by amputation or allowing the gangrenous areas to slough off.

29. Naide, M.: Use of Vitamin B₁ in Rest Pain of Ischemic Origin. *Am. J. Med. Sc.*, 197:766-773, June, 1939.

30. Frey, E. K. and Kraut, H.: Über einen von der Niere ausgeschiedenen, die Hertztaetigkeit anregenden Stoff. *Zeitschr. f. Physiol. Chem.*, 157:32, 1926.

31. Fisher, M. M., Duryee, A. W. and Wright, I. S.: Deproteinized Pancreatic Extract; Effect in Treatment of Intermittent Claudication Due to Arteriosclerotic Obliterations. *Am. Heart J.*, 18:425-433, Oct., 1939.

EPILEPSY

OBSERVATIONS ON TREATMENT*

FREDERICK LEMERE, M.D.

SEATTLE, WASH.

Epilepsy is one of the oldest known diseases. Hippocrates said: "I am about to discuss the disease called 'sacred.' It is not, in my opinion, any more divine or more sacred than other diseases, but has a natural cause, and its supposed divine origin is due to men's inexperience and their wonder at its peculiar character."

The "natural cause" of epilepsy, however, remained hidden until within the last few years when the electroencephalograph,¹ or brain wave apparatus, revealed that it was due to an abnormal rhythm of the cortical neurones. The normal cortical rhythm is about eight beats per second (fig. 1). During an epileptic attack the waves develop an abnormal frequency and combination of fast and slow waves characteristic of this disorder (figs. 2, 3). "Larval" attacks may appear on the record between seizures, indicating that subclinical spells

*Read before a meeting of King County Medical Society, Seattle, Wash., Nov. 20, 1939.

1. Lemere, F.: Electroencephalography, *Psychiat. Quart.* 13:5-15; Jan., 1939.

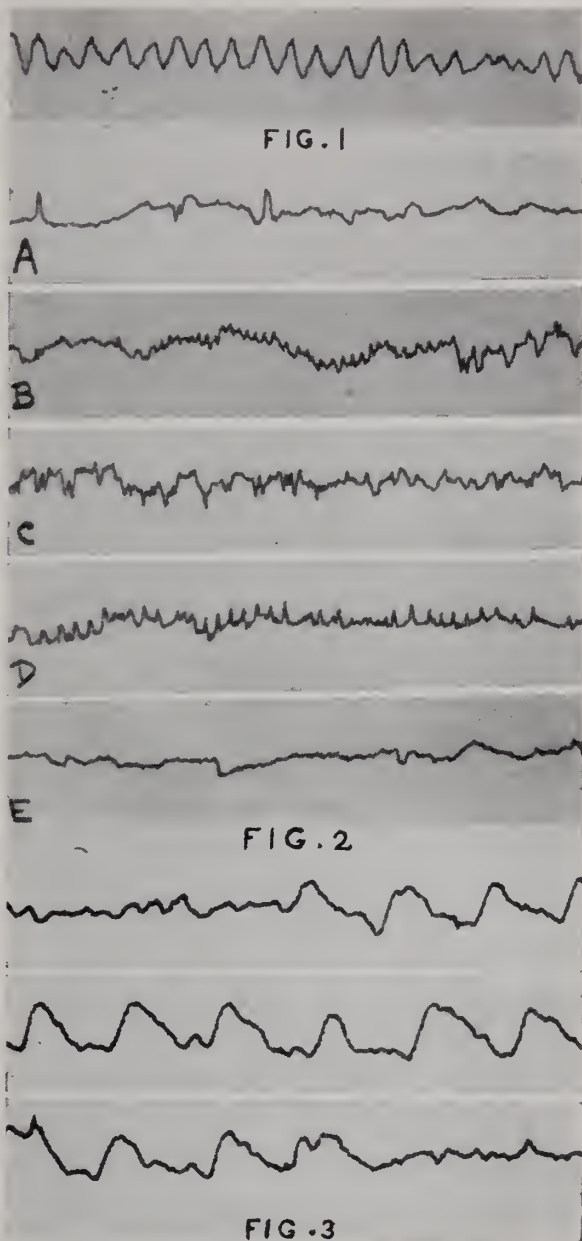


Fig. 1. Record of normal brain waves occurring eight per second.

Fig. 2. Record of cortical brain waves during a grand mal seizure. A, Sporadic pre-seizure spikes discharging during aura phase. B, Onset of tonic phase. C, Clonic phase. D, Continuation of clonic phase. E, Postconvulsive depression of all cortical activity.

Fig. 3. Record of cortical brain waves during petit mal seizure showing characteristic slow waves with tendency to spike formation between each wave. These three waves are in sequence.

occur with no outward evidence of a spell. These attacks are also found in apparently normal individuals who are considered, therefore, to be carrying a latent tendency toward epilepsy. Lennox, Gibbs and Gibbs² have shown that abnormal waves

2. Lennox, W. G., Gibbs, E. L. and Gibbs, F. A.: Inheritance of Epilepsy as Revealed by Electroencephalograph, *J.A.M.A.* 113:1002, 1003, Sept. 9, 1939.

are found nine times as frequently in relatives of epileptic patients as compared to the relatives of nonepileptics. The heredity is recessive and a history of epilepsy is more common in cousins, aunts, uncles or grandparents than in the immediate family.

About one person in ten shows abnormal waves and the obvious conclusion is that they have inherited a constitutional tendency toward epilepsy that may or may not become manifest, depending on the malignancy of the defect and freedom of the susceptible cortex from a precipitating trauma. Only one person in twenty with a predisposition to epilepsy actually develops clinical epilepsy. It would seem unwise for two people with abnormal waves to have children, even though they had no clinical evidence of epilepsy, for the incidence of epilepsy in such offspring is definitely higher than where only one or neither parent has abnormal waves.

Thus ideopathic epilepsy is due to an inherited defective cortex subject to attacks of abnormal electric discharges. Epilepsy may also be produced by other factors, such as brain tumor, syphilis, multiple sclerosis, arteriosclerosis, hydrocephalus, birth injury, trauma, lead, alcohol and many other agents too numerous to mention. Even in these cases, however, there is often a strong constitutional background for the attacks.

There are many types of epilepsy. You are all familiar with the grand mal convulsive seizures and the momentary lapses of petit mal. The psychic attacks called equivalent states are not so familiar. They are characterized not by a loss of consciousness or a convulsion but by partial consciousness with dream-like spells of sleep walking, fugues, amnesia, confusion and more or less purposeless activity, sometimes of a criminally violent nature. For example, Bing³ tells of a judge who, while sitting on the bench, began smacking his lips, muttered a few unintelligible words to himself, left the bench and went out into the hall, where he urinated into an umbrella. He returned to the bench and resumed the hearing with no memory of what he had done. There may or may not be amnesia for these spells.

Some patients have attacks only at night, the patient waking in the morning with a bitten tongue and soiled or disturbed bed clothing. Other patients have attacks only when they drink alcohol. In a certain percentage there are characteristic personality changes with irritability, slowness of thinking,

monotonous speech, moodiness and a sticky type of emotionalism that is diagnostic in itself. Mental deterioration eventually takes place in about half the cases. Three-fourths have their first attack before the age of twenty and epilepsy starting after forty is probably organic.

Differential diagnosis is not always easy. Ordinary fainting spells are usually preceded by weakness and a sensation of everything turning black. Hysterical attacks are not associated with tongue biting, urinary or bowel incontinence and are more purposeful and well timed for sympathy. Carotid sinus and cardiac spells are accompanied by anomalies of the pulse and heart. Hypoglycemia can be ruled out by a sugar tolerance test.

TREATMENT

Bromides and phenobarbital, the sheet anchors of treatment, are being superseded by dilantin sodium. This new drug is far superior to anything we have ever had before and patients having two or three attacks a week on full dosage of phenobarbital or bromides have one attack every two or three months, or none at all on dilantin. Dilantin is less uniform and more toxic in its action and sometimes produces acne, nervousness, vertigo, nausea, blurred vision or swelling of the gums. Patients should be warned never to stop medication suddenly, even for two or three doses, as this is apt to bring on a spell. Medication should be continued for at least a year after the last seizure to prevent recurrence of attacks.

Ketogenic diets have been advised but in my opinion are not warranted. The diet is hard to follow and produces an autointoxication that is almost worse than the disease. It would seem more logical to administer the sedation by mouth and preserve the health of the patient by an adequate diet.

Restriction of fluid intake is probably of help and easily instituted. Various operative procedures have been advanced but none found acceptable, except in Jacksonian epilepsy with organic cortical irritation.

There are many things a patient can do to help. Regular living with freedom from excitement is necessary. The bowels should be kept open, preferably with milk of magnesia, as the magnesia has a sedative action itself on the cortical neurons.

CONCLUSION

The modern outlook on epilepsy should be one of hope, as the majority of patients can be kept symptom-free or greatly helped by proper treatment. 706 Medical Dental Bldg.

3. Bing and Haymaker, W.: *Textbook of Nervous Diseases*, p. 699, C. V. Mosby Co., St. Louis, 1939.

DELEADING

T. E. P. GOCHER, M.D.

SAN FRANCISCO, CALIF.

Deleading is converting the lead in the tissues into a more soluble form so that it can be conveyed in the blood stream and excreted. It is transported largely as a finely divided lead colloidal phosphate. Lead is deposited in the bone in the form of a tertiary phosphate, while in the soft tissue it is largely as the relatively more soluble proteinate of lead.

I consider there are two types of deleading, the chief form being in the primary type as in lead intoxication. This is when the individual is taken immediately with real lead poisoning. The other is the secondary type, in which the primary or original condition is a separate pathologic condition such as bronchitis, fracture, appendicitis or gastroduodenal ulcer which upsets the normal excretion of the lead.

Apparently the toxicity of lead is due to the soluble salts in the lead in the blood and also individual susceptibility, the tertiary phosphate being of a nontoxic nature relatively speaking. Some individuals are more susceptible than others to the same amount of lead salts present.

It has been found that the stippled red cell count usually is in proportion to the toxic condition of the lead in the blood. This is possibly due to the degree of soluble salts present. Usually the more toxic the action of the lead on the person, the higher the stippled count. It has been found in the study of over three hundred persons working in a lead exposure that the higher the stippled count, the higher the percentage of those who show symptoms and especially after a stippled count of 25 in 2,000 red cells. I believe that the higher the percentage of the relatively more soluble salts of lead, the higher the stippled count and the more toxic the condition. This also holds true in the reverse; the smaller the count of the stippled cells, the less toxic the lead. It was found that the same proportions hold true with a reticulocyte red cell count excepting that this count shows absorption and stimulation, while the stippled cells count shows absorption and toxicity.

In a primary deleading it was found that the large mononuclear cells were usually nine or higher percentage. In many cases eosinophiles or basophiles were found. Polychromatophilia was usually found in high proportion with an irregularity of the red cells. These were in the typical cases of lead intoxication and poisoning.

In the secondary deleading cases it was found that the large mononuclear were usually between two and six per cent. The eosinophiles were usually

higher than normal and in some cases no polychromatophilia was found. The red cells were usually normal or varied only slightly. The stippled cells may be found up to around 50 in 2,000 cells, the average being from 8 to 12 cells. A reticulocyte count was found up to 100,000 in a cubic millimeter.

Secondary deleading was found in cases following (1) abdominal influenza, (2) extraction of multiple infected teeth, (3) acute bronchitis, (4) fractures, (5) appendicitis, (6) gastric and duodenal ulcers, (7) colitis and (8) those addicted to excessive alcohol. A deleading may occur if the individual develops acidosis or alkalosis.

Symptoms in secondary deleading usually occur in one to four days after the primary condition has developed. Symptoms of lead intoxication and poisoning may or may not be present. The fact that the stippled red cells and/or the reticulocyte are above normal and also that the lead in the urine is above normal percentage does not of necessity mean that lead intoxication is present.

The diagnosis of secondary deleading in any case of an individual working with lead exposure should be made by considering each case separately. Each case should have a thorough examination and the physical findings, symptoms, blood findings and the amount of lead in 1,000 cc. of urine found; then the case should be compared to a known lead case or known lead symptoms before the diagnosis can be fully made.

A case was seen with stippled cells which were seven in two thousand red cells and the lead in 1,000 cc. urine was 0.204 mgm. and yet there were no symptoms of lead intoxication. In another case there were stippled 50 in 2,000 red cells and the lead in the urine in 1,000 cc. was 0.108 mgm. and this case had some symptoms of lead intoxication. These are two individual cases that show well that symptoms must be considered more than the actual stippled cells counts and the amount of the lead in urine. No relationship was found between the stippled cells and the lead found in the urine.

There may be a large variation between stippled cells found and the amount of lead in the urine. The maximum that I have come across was stippled cells 240 in 2,000 red cells but the lead was only 0.04 mgm. in 1,000 cc. of urine, while the minimum was stippled cells seven with lead 0.204 mgm. in 1,000 cc. The toxicity of the lead plays a large factor in the findings.

In cases of secondary deleading the prognosis is better, the treatment less difficult and disability time less than the ordinary primary lead cases.

Individuals may work for years in a lead exposure and show no symptoms of lead intoxication. This will continue as long as inhalation and ingestion of lead does not exceed its excretion but, should something go wrong with the excretion of lead, then a susceptibility may develop and the claimant in a short time show evidence of lead intoxication. This condition of lead susceptibility may be due to either the upsetting of the excretion of the lead and/or an increase above normal of the relatively more soluble salts of lead.

In many cases of secondary deleading, if treatment is given only to the original or primary disease, the increased lead will in time return to normal and no symptoms of plumbism develop. Cases have been seen in which there were increased lead in the urine, but yet no treatment was given for the lead condition and only the original disease treated which caused the onset. The cases have become fully cured.

An interesting case was found of an adult painter and plumber, in whom the stipple count was 79 in 2,000 reds. The lead in 1,000 cc. of urine was 0.206 mgm. and yet there were no symptoms. I believe this was due to the fact that most of the lead was of a nontoxic type and the man was not susceptible.

The following table is interesting. It shows the stippled cells in 2,000 red cells with the lead in 1,000 cc. of urine. None of the listed cases showed any lead symptoms.

Work	Stipples in 2000 Red	Lead in 1000 c.c. mgm.	Remarks
Plumber	79	0.206	No symptoms of lead poisoning
Painter			No symptoms of lead poisoning
Painter	0.001	0.071	No symptoms of lead poisoning
Lead work	18	0.20	No symptoms of lead poisoning
Lead work	7	0.204	No symptoms of lead poisoning
Lead work	40	0.102	No symptoms of lead poisoning
Painter	50	0.12	No symptoms of lead poisoning

Stipples in 2000 Red Cells Before disease	Diseased	Disease
1.25	18.0	Abdominal influenza
1.7	8.0	Influenza
1.25	10.0	Bronchitis
1.7	3.25	Gastric ulcer
1.7	8.25	Colitis
1.7	10.0	Influenza
1.8	8.0	Influenza
8	20.0	Influenza
1.75	7.0	Duodenal ulcer
1.25	40.0	Five infected teeth out (Had three lead symptoms)

I consider that this deleading occurs many times and is unrecognized or symptomless. In the large percentage of these cases no treatment for lead intoxication is required.

CONCLUSIONS

When deleading occurs or is found in workers exposed to lead, there should be made a thorough

examination and study of the case. All factors should be considered and compared to known lead symptoms. The fact that the stippled cell count is high and/or the reticulocyte count high does not mean that lead toxemia is present. Also the fact that there is increased lead in the urine does not of necessity mean it is lead intoxication and poisoning.

The stippled count, reticulocyte count and symptoms should be studied fully. The higher the stippled count the more the toxic action of the lead. The individual susceptibility to lead should also be considered. I am of opinion that, when a susceptibility develops, there is also an increase in the reaction to stimuli of the autonomic nervous system.

INTRACRANIAL GUMMA WITH UNUSUAL CLINICAL FEATURES

REPORT OF TWO CASES*

GEO. A. C. SNYDER, M.D.

SPOKANE, WASH.

AND

GEORGE A. RICKLES, M.D.

FT. STEILACOOM, WASH.

Unusual clinical features and diagnostic difficulties associated with two instances of intracranial gumma which we have recently observed make it seem desirable to report them. Although once clinically common, these lesions are currently rare as shown by the presence of only twelve among 2023 verified intracranial tumors in the series reported by Bailey¹. Ordinarily, gummas are tumors of adult life (30 to 55 years), appearing fifteen to twenty years after the syphilitic infection, and predominate in males in the ratio of 5:3².

Usually single and relatively large, these granulomas are characteristically located in relation to vessels or meninges of the cerebral hemispheres, and do not as a rule involve the occipital lobes, the basal ganglia or base of the brain. Because of their vascularity, circumscription and relation to meninges, they are not infrequently mistaken at operation for meningiomas. They are firm or rubbery, and on sectioning appear fibrous with yellowish or whitish partially necrotic centers. The typical histologic appearance is well illustrated in our first case described below. Successful demonstration of spirochetes in microsections of gummatous tissue is often impossible.

Gummas possess no characteristics which allow

*From Department of Pathology, Western State Hospital, Ft. Steilacoom, Washington.

1. Bailey, P.: Intracranial Tumors. Charles C. Thomas, Baltimore, 1933.

2. McLean, A. J.: Intracranial Tumors. in Handb. d. Neurologie. O. Bumke u. O. Foerster, Bd. XIV. Julius Springer, Berlin, 1936.

their certain clinical differentiation from other tumors of the brain. Manifestations of tumor with negative serologic tests performed on blood serum or cerebrospinal fluid by no means rule out gumma.

More than half of the individuals harboring gummas of the brain have positive serologic tests for syphilis in the blood serum and less than half show positive serologic tests in their cerebrospinal fluid. However, some change in the spinal fluid is usual such as pleocytosis, increase of globulin or changes of some type or other in the reaction with colloidal gold sol. On the other hand, manifestations of intracranial tumor in the presence of positive serologic tests on the blood, or of positive serologic, cytologic or chemical changes in the cerebrospinal fluid do not prove a tumor to be gummatous.

Neoplastic tumors may cause false positive serologic tests, and an individual having syphilis may harbor a neoplastic tumor in addition to his infection. The so-called "therapeutic test" proves nothing, and is mentioned only in condemnation. Anti-syphilitic treatment, particularly the exhibition of iodides, may, for causes unknown, produce temporary amelioration of symptoms due to tumors other than syphilomas. Moreover, gummas, especially those causing increased intracranial pressure unrelieved by decompression, often fail to respond to medication, or may undergo symptomatic improvement followed only too soon by relapse.

Recently Alpers³ has echoed the truths expressed decades ago by Horsely,⁴ stressing the vital advantages of prompt surgical attack on these lesions. Decompression can save failing vision and preserve life. Individuals with high papilledema do not live long without such relief, but may survive long after it. A previously resistant gumma may become vulnerable to chemotherapy after a decompression. If favorably located, gummas may be extirpated with negligible mortality. Removal, followed by intensive medical treatment, is the therapy to be elected. Temporizing with medical treatment in the presence of failing vision, papilledema or other clinical evidence of increased intracranial pressure or progressive disturbance of cerebral function may possibly save life but is not likely to preserve vision or other important cerebral function. The possibility of a therapeutic paradox must not be forgotten. Exploration may reveal not the expected syphilitic granuloma, but a neoplastic tumor which procrastination would soon render inoperable and hopeless.

Another inflammatory tumor which may simulate gumma is the tuberculoma, but the latter exhibits important differences. It occurs four times as frequently before the twentieth year of life as afterward, it is six times more commonly cerebellar, is smaller and often multiple, involves brain parenchyma rather than vessels or meninges, and is not infrequently calcified. Surgical attack almost invariably eventuates in a disseminated tuberculous meningitis, fatal within a few months. Tuberculomas have better defined and denser capsules which surround completely caseated debris. Histologically the chief differences lie in the complete caseation, absence of secondary vascularization, and lack of argentophilic mesenchymal fibrils in the necrotic areas.

CASE REPORTS

Case 1. The patient was a Nanaimo Indian, 24 years old. Since childhood he suffered occasional frontal headaches and during hot weather had epistaxis. His first sexual contact was at the age of seventeen years, and he denied ever having had gonorrhea or syphilis. He drank occasionally, and while drunk was completely amnesic. During a drinking spree in August, 1938, his wife was killed. Convicted of murder, he was received at the Washington State Penitentiary in January, 1939, to begin serving a life sentence.

In February he began having violent headaches, with general malaise and vomiting. In March, his vision began to fail. In July visual acuity in the right eye was found to be 20/100, with papilledema of 6 diopters, and vision in the left eye was 20/60, with papilledema of 4 diopters. The right pupil did not react to light and there were bilateral retinal hemorrhages. No abnormalities were found by brief neurologic examination. Diagnosis of brain tumor having been made, he was transferred to Western State Hospital August 7 for operation by Dr. S. N. Berens.

Ventriculography next day revealed a tumor of the right cerebral hemisphere. The ventricular fluid contained 5 lymphocytes and 25 red cell per cmm., a trace of globulin (Pandy) and the Kolmer and Kahn reactions were negative. The colloidal gold curve was 5532100000. Blood sugar and urea nitrogen were normal and examination of the blood and urine gave normal results. The Kolmer, Kahn and Laughlin tests on the blood serum were negative.

Under intravenous pentothal-sodium anesthesia, a right subtemporal decompression was made, and the dura thus exposed was very tense. Through an osteoplastic flap a tumor, thought to be a meningioma arising from the meninges at the base of the skull beneath the right temporal lobe, was easily removed. The postoperative course was uneventful. A week after operation papilledema had receded partially and bilateral chorioretinitis, exciting suspicion of syphilis, was apparent.

A little over two weeks after operation, the patient was returned to the prison, walking and symptomatically improved, but he had a low fever. On September 12 he developed hiccup and became comatose. Dehydration therapy did not relieve him and he died September 16, after having become almost totally blind.

Cranial necropsy revealed minor herniations of the brain through the ventricular puncture trephine openings, but the osteoplastic flap was not displaced. The brain was firm and tense. In the right temporal lobe was a cavity containing straw colored fluid. About the optic chiasm the arachnoid

3. Alpers, B. J.: Gumma of Brain. *Am. J. Syph., Gonorr. & Ven. Dis.*, 23:2333-240, March, 1939.

4. Horsley, V.: Die chirurgische Behandlung der intracraniiellen Geschwulste, im Gegensatz zu der abwartenden Therapie betrachtet. *Neurol. Centralbl.*, 21:1170, 1910.

was thickened and there seemed to be some exudate beneath it.

The tumor (fig. 1) weighed 26.5 gm. and measured 6 by 5.2 by 2.8 cm. Its surface was bosselated; it seemed encapsulated and had no large vessels attached to it. It was firm, elastic, and cut readily, revealing multicentric, polycyclic

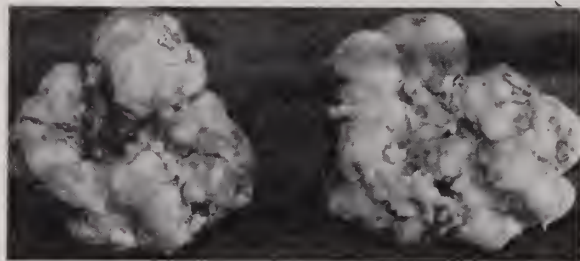


Fig. 1. Case 1. External aspects of gumma.

dull yellowish necrotic areas surrounded by tissue sometimes of fibrous appearance and sometimes resembling a section of raw potato.

The lesion was composed of fibrous connective tissue of widely varying age and density and of an abundance of vascularized granulation tissue heavily infiltrated by plasma cells, lymphocytes, monocytes, histiocytes and by rare polymorphonuclear neutrophilic and eosinophilic leukocytes. In most places the exudate cells showed definite perivascular concentration and many vessels showed inflammatory cellular infiltration of their walls with obliterative proliferation of endothelium and intimal fibrous tissue. Multinucleated foreign body giant cells sometimes surrounded by epithelioid cells and fibroblasts were fairly numerous; these were not typically located about necrotic foci as are those of tuberculosis. There were extensive areas of coagulative and incomplete caseation necrosis within which many newly formed blood vessels were present. In these areas as elsewhere was a dense feltwork of argentophilic, mesenchymal fibrils. The denser and older fibrous tissue was located peripherally. Attempts to demonstrate spirochetes in the sections were unsuccessful.

COMMENT

Interesting features of this case are the youth of the patient, the rapid evolution of symptoms, and the negative serologic tests on the blood and spinal fluid. The fatality, following what should ordinarily have been a successful attack, probably lay in the concomitant apparently syphilitic meningitis which, however, failed to excite the serologic changes which usually accompany this lesion, and to brain edema.

Case 2. A white woman, 55 years old, was perfectly well until early in December, 1938, when she began to have difficulty in writing with her right hand, and soon the arm was paralyzed. A physician told her that she had suffered a stroke and had low blood pressure. She was hospitalized for two weeks without benefit. Late in January, 1939, she seemed depressed, felt weak and dizzy, and dragged her right foot in walking. Soon a rapidly progressive speech defect appeared. At first she would suddenly stop talking and did not seem to remember what she had just said, later she ceased all talking.

She was committed to the Western State Hospital because of alleged melancholia, attributed to the recent death of her husband, the unexpected marriage of her son, and to a small hemorrhage or other cerebral vascular accident. When admitted July 31, 1939, her right arm was paralyzed and she could not talk, but by nodding her head indicated that she

understood what was said to her. She had multiple decubitus ulcers, a temperature of 101°, and a pulse rate of 100. She could move her right leg slightly. The state of the pupils varied from day to day. At times the right one was greatly dilated and would not react to light, although both reacted to accommodation. At other times the pupils were equal and reacted readily both to light and accommodation. Horizontal nystagmus was present at times, and ocular movements were good. Although she was completely aphasic and could not protrude her tongue, she could frown sluggishly.

The biceps, triceps and periosteal reflexes were active and equal. The cutaneous abdominal reflexes could not be obtained. The hand grip was weak on the left and absent on the right. The patellar reflex was absent on the right and only occasionally present on the left. Babinski, Chaddock, Gordon and Oppenheim signs were positive on the left and sometimes on the right. She did not respond to pinprick stimulation of the right upper extremity or of the right inferior extremity down to the middle third of the foot. The left arm was edematous and purpuric. The blood pressure obtained on the right arm was 75/60 and 62/56 on the left. Occasionally she would put her hand to her head, as if in pain. Control of rectal and bladder sphincters was lost.

On August 3, the spinal fluid pressure was 18 mm. of mercury. The fluid was clear and colorless, contained 3 cells per cmm., gave a 1 plus positive test for globulin (Pandy) and negative Kolmer and Kahn reactions. The goldsol curve was 4454321000. The urine was normal. Kolmer, Kahn, and Laughlin tests on the blood were negative. Blood urea nitrogen and blood sugar were normal. Hematologic examination gave normal findings. The leukocyte count was 11,200 with 78 per cent polymorphonuclear neutrophils. Encephalography was attempted August 18 without success. Ten days later she died. The important clinical diagnosis were psychosis due to intracranial neoplasm and right cruciate hemiplegia.

The brain weighed 1430 gm. The arachnoid and the vessels of the circulus arteriosus were unchanged. Flattening of the convolutions, although general, was marked over the left cerebral hemisphere, particularly over the inferomedial

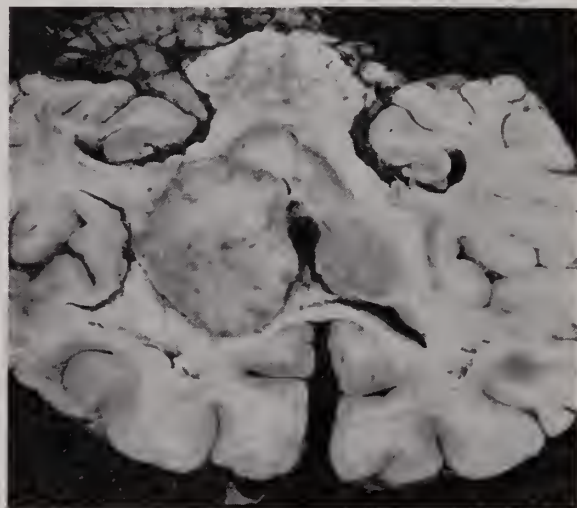


Fig. 2. Case 2. Massive deeply situated gumma.

surface of the left temporal lobe. Along the hippocampal gyrus there was a shallow longitudinal groove. The left crus cerebri was flattened and bulging and the mamillary bodies were displaced to the right.

Serial coronal sectioning revealed (fig. 2) a tumor deep in the left hemisphere, destroying and replacing the thalamic pulvinar, retrolenticular portion of the internal capsule,

parts of the putamen and globus pallidus, and of the mesencephalic tegmentum with involvement of colliculi, substantia nigra, red nuclei, hypothalamic nuclei and also of the medial geniculate body. Mamillary bodies, third ventricle, corpus callosum and cerebral aqueduct were distorted and crowded to the right. Most of the tumor lay within the greatly distended left lateral ventricle and in places seemed to be covered only by ependyma. About the growth the brain tissue was gummous and necrotic and softening was present also in the right internal capsule. Remaining portions of the left lentiform nucleus were displaced downward and lateral and remnants of the internal capsule and the crus were stretched over the inferolateral surface of the mass.

The tumor had an anteroposterior diameter of 50 mm., measured 37 mm. superoinferiorly, and was 40 mm. wide. The peripheral portions appeared fibrous, and although circumscribed, the growth did not seem to be completely encapsulated. The central portions varied from a semitranslucent to a white, opaque, porcelain-like appearance, but most of the tissue, especially that near the center, was dull yellowish. Although some areas were soft and hemorrhagic, much of the mass was firm or fibrous, hard and tough.

Histologically the tumor closely resembled the first one.

Other important necropsy findings were purulent bronchitis with bilateral bronchopneumonia and acute fibrinous pleuritis on the right; disseminated acute focal hepatitis; healed rheumatic carditis with mitral stenosis, and disseminated adenomatous hyperplasia of the thyroid gland. The spinal cord showed no gross changes. No evidence of syphilis was found elsewhere in the body despite careful gross and microscopic search.

Interesting and unusual features of this case are

the age of the patient, the negative blood and spinal fluid serologic tests, the involvement of basal ganglia and crura, and the absence of discoverable gummatus lesions elsewhere in the body, for these are frequently associated with cerebral gummas. One feature of this case should be stressed, that only too often patients harboring intracranial tumors or other overt organic involvement of the central nervous system are committed to mental hospitals as cases of functional psychosis.

Bailey aptly says, "the first step toward establishing a diagnosis of intracranial tumor is to have the possibility of its presence occur to the physician." Any progressive, afebrile impairment of cerebral function should probably be regarded as caused by tumor until proved otherwise.

SUMMARY

Two cases of intracranial gumma having some interesting and unusual clinical features are reported. Careful deliberation of clinical symptoms and signs of organic brain disease before making a diagnosis of functional psychosis is suggested, and some fundamental concepts in the diagnosis and treatment of intracranial gummas are reiterated.

NATIONAL MEETINGS

Numerous meetings are scheduled that interest the profession in all parts of the country. Requests have been received that attention be called to the following:

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY will hold its forty-fourth annual meeting in Cleveland, October 6-11. More than one hundred teaching lectures will be presented. The Academy will honor Dr. Secord H. Large of Cleveland, who completes thirty years as comptroller of the organization.

Following the Academy meeting there will be a Pan-American Congress of Ophthalmology, October 11-12, which eye specialists from all Latin American countries are expected to attend. An interesting program has been arranged.

AMERICAN BOARD OF OPHTHALMOLOGY will have only one written examination during 1941, which will be held in various cities March 8. A special oral and clinical examination will be held on the Pacific Coast during 1941, provided there are sufficient candidates to warrant it. Applications for this examination must be filed before September 1, 1940. Deadline for case reports is February 1. Application blanks must be received before December 1 at 6830 Waterman Avenue, St. Louis.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY will hold its annual written examination and review of case reports for Group B, Part 1, in various cities of the United States and Canada January 4, 1941. Applications for examination must be filed with the secretary, Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh, Pa., by October 5. Details of examinations may be obtained from the secretary.

AMERICAN CONGRESS OF PHYSICAL THERAPY will hold its nineteenth annual meeting at Cleveland, September 2-6.

Mornings will be devoted to an instructional seminar, with the scientific program presented afternoons and evenings. The seminar course consists of twelve lectures. For information as to schedule, fees, etc., write to 30 North Michigan Avenue, Chicago.

OSLER AT OLD BLOCKLEY

"Osler at Old Blockley," a painting in oil by Dean Cornwell, was unveiled at the dedication of the Osler Memorial Building on the grounds of the Philadelphia General Hospital this past June and was later exhibited at the American Medical Association convention in New York.

The painting depicts one of Osler's outstanding contributions to medicine, namely, bringing medical students to the bedside of the patient for clinical study. In the painting Osler is shown at the side of an elderly patient on the hospital grounds. Surrounding him and the patient are internes who have stopped with him as they were on their way to the autopsy house to observe one of his famous postmortems. This autopsy house, now the only Osler Memorial Building in the United States, is shown in the background. This memorial was made possible by a grant from John Wyeth & Brother.

"Osler at Old Blockley" is the second painting in the series, "Pioneers of American Medicine," sponsored by John Wyeth & Brother as part of a project to highlight the contributions of Americans to the advancement of medicine. "Beaumont and St. Martin" was the first painting in the series. Colored reproductions of "Osler at Old Blockley," suitable for framing, may be obtained free by addressing requests to Northwest Medicine, 225 Cobb Building, Seattle, Wash.

STATE SECTIONS

**WASHINGTON STATE
MEDICAL ASSOCIATION**



**FIFTY-FIRST ANNUAL
MEETING, TACOMA, AUG. 26-28**

**WASHINGTON STATE MEDICAL ASSOCIATION
FIFTY-FIRST ANNUAL MEETING, TACOMA
August 26-28, 1940**



WARREN B. PENNEY, President

PRESIDENT'S MESSAGE

Tacoma, Wash., July 26, 1940.

Tacoma and Pierce County Medical Society invite all members of the State Association and Woman's Auxiliary to join with them in the annual meeting to be held in Winthrop Hotel, Tacoma, August 26-28. We have prepared a full program and ask that you give careful consideration to it as outlined in this issue of *NORTHWEST MEDICINE*. As you will note, the scientific program will be given by Washington men. Those on the program have worked hard and I am sure the presentations which they will make will do credit to themselves and the medical profession of the state.

Registration will be open in Winthrop Hotel all day

Sunday, Monday, Tuesday and Wednesday. We would like to have Pierce County members and all of those who arrive Sunday or Monday register as soon as possible after arrival.

Golf as usual will be the main attraction on the first day. Sunday and Monday there will be a full program which has been prepared by the committee. In addition to the golf tournament on Monday, a fishing derby has been arranged and this committee promises at least one salmon on the hook for every member who enters the contest. Further details of this will be announced later.

In planning your stay we believe you will enjoy spending some extra time in Tacoma as we have many interesting things to do outside of medicine. Special attractions are fishing in the Sound, visiting our mountain, visiting McChord Field with its mammoth new hangars and hundreds of airplanes, Ft. Lewis, which is in a very active state at the present time, and, of course, we want you to take a ride over the new Narrows Bridge.

I wish to urge delegates to the State Association meeting to attend all of the business meetings. This is your association and its business depends on your participation. Committee reports and resolutions to be considered by the House of Delegates will be mailed to each delegate before the meeting in time for a thorough study.

The technical exhibit will be the largest yet staged at any of our state meetings and ample time has been provided during the program for visiting this instructive display. The scientific exhibits will be well worth all the time you can find to spend with them. I would like specially to call your attention to the exhibit which will be staged by the Cancer Committee of the State of Washington.

If you have not already done so, please send reservations for hotel accommodations to the Winthrop Hotel at once.

We will all be looking for you.

WARREN B. PENNEY, *President*.

TACOMA, THE CONVENTION CITY

Tacoma is the third city of size in the state with a population of 110,000. It is known as the Gateway to Rainier National Park and the "Lumber Capital of America." It is situated at the head of Puget Sound, in what is known as Commencement Bay which is rated by the U.S. Government as one of the five best natural harbors in the world. Much of the panoramic view of the city can be seen from the roof garden of the Winthrop Hotel, headquarters of the Washington State Medical Association convention.

These are a few of the high spots to be seen: The new



BUSINESS DISTRICT OF TACOMA WITH MOUNT RAINIER IN BACKGROUND.
TAKEN FROM ROOF OF MEDICAL ARTS BUILDING

Narrows bridge is the third largest span in the world with a length of 2,800 feet. Point Defiance Park is considered one of the finest in the West. This park contains 640 acres of virgin wilderness, through which winds miles of woodland roadways and trails. It has many flower gardens, beaches, a zoo, picnic facilities and a dining room. Then, of course, there are many recreational clubs, golf courses and chains of freshwater lakes, all within a few minutes from the convention headquarters.

The Tacoma Golf and Country Club is considered one of the sportiest and most beautiful in the Northwest. It has also an excellent beach on American Lake. Then there is Fort Lewis, one of the largest permanent Army posts in the nation. The Fort is part of a 70,000 acre reserve. McChord Field is one of the major Army Air Bases in the nation. It should be seen.

There are a hundred other sights and things to see such as the industrial area, the harbor and its port facilities, the residential districts, Ferry museum, Tacoma smelter, second largest in the world. You will enjoy the trip to Mount Rainier, Puyallup valley, cruising on the Sound, dozens of bathing beaches, and fishing in salt and fresh waters.

There are modern hospitals and clinics and a half a dozen outstanding buildings housing the medical profession such as the Medical Arts, Rust, Washington, Perkins and others. To go, to see, to enjoy all these things in Tacoma, obtain



PARADISE VALLEY, MOUNT RAINIER



WINTHROP HOTEL

information about them at the registration desk or clerk at the Winthrop Hotel.

Headquarters

General headquarters for the convention will be established at the Winthrop Hotel. All activities will be centered within the hotel with, of course, the exception of golf tournaments and golf dinners scheduled for Monday. There will be thirty-five technical exhibits located in the Junior Ball Room and the Main Lobby of the hotel and two-score more scientific exhibits for observation. All scientific programs will be conducted in the Crystal Ball Room. The



MEDICAL ARTS BUILDING

House of Delegates will meet in the Army and Navy Room. The general meetings of the Women's Auxiliary will be held in the Auditorium of the Medical Arts Building, one block from the hotel.

Hotel Reservations

If you have not done so, your hotel reservations should be made immediately. Requests for reservations should be made with the Manager, Winthrop Hotel, Tacoma. The management of the hotel will see to it that accommodations are available for members, including the overflow reservations. It is advisable, however, to make immediate reservations with the hotel, if rooms are desired at the hotel itself.

SCHEDULE OF EVENTS

Golf Tournaments, Sunday and Monday.
Golf Headquarters, Winthrop Hotel, Tacoma.
Sunday, August 25.

- Registration, all day, lobby, Winthrop Hotel.
12:00 o'clock noon—Tee-off for Grand Sweepstakes, 18 holes on full handicap, Tacoma Golf and Country Club. Twenty-five special prizes will be awarded for this event at the no-host dinner. (Bring your wife).
6:30 p.m.—No-host golf dinner, Roof Garden, Winthrop Hotel. Grand Sweepstakes prize awards given at this dinner.

Monday, August 26.
Registration, all day, lobby, Winthrop Hotel.

ANNUAL GOLF TOURNAMENT
TACOMA GOLF AND COUNTRY CLUB
D. H. Houston, State Chairman.

C. V. Lundvick, Pierce County Chairman.

- 7:30 a.m.—Tee-off time.
1. Championship and runner-up—36 holes gross.
2. President W. B. Penney Trophy—18 holes net.
3. W. A. Taylor Trophy—36 holes net.
a. Runner-up—36 holes net—Winthrop Hotel Trophy.
4. A. A. Strauss Trophy—seniors, 18 holes net.
5. Consolation Trophy—18 holes net (second round).
6. Shaw Trophy—Four man team, inter-county contest.
7. Section Contests (Prizes in Every Section) Medicine; Surgery; Orthopedics and Traumatic Surgery; Pediatrics; Obstetrics and Gynecology; X-ray and Physiotherapy; Urology and Dermatology; Eye, Ear, Nose and Throat; and Pathology.
8. Class Contests: Class A (0-12); Class B (13-18); Class C (19-24); and Class D (25-30).
9. Philip Morris event—A prize for every birdie.
10. Swimming for everybody at the beach of the Tacoma Golf and Country Club, American Lake. Bring along your swim suits.

And here's the top of the day: Annual dinner, awarding of prizes and election of officers of the Washington State Medical Golf Association. All this follows after the last weary golfer comes home from the fairways to rest his bones on the veranda or join the quartet in the locker room at the Tacoma Golf and Country Club.

Monday, August 26.

FISHING DERBY

Lester S. Baskin, M.D., Chairman.

- 1:30 p.m.—Those registered for Fishing Derby, leave lobby of Winthrop Hotel for fishing fleet.
2:00 p.m.—Arrive aboard fleet of small cruisers and other craft.
2:00 p.m.—Those not wishing to enter Fishing Derby will be taken for cruise on yacht around harbor. Refreshments.

Note: Accommodations can be made for 35 to 40 fishermen only. All fishing gear will be on board. All refreshments will be aboard boats. Prizes will be awarded—many of them. In fact there will be a prize for every salmon caught.

All those participating in the Fishing Derby will, of course, be guests at the annual golf dinner at the Tacoma Golf and Country Club in the evening. The Fishing Derby prizes will be awarded at the dinner.

Sunday, August 25.

Registration, all day, Winthrop Hotel.

SCIENTIFIC AND BUSINESS SESSIONS

- 4:30 p.m.—Meeting of Board of Governors, Medical Defense Fund, Army and Navy Room, Winthrop Hotel.
6:00 p.m.—Meeting of Board of Trustees, Army and Navy Room (Dinner).

Monday, August 26.

Registration, all day, Winthrop Hotel.

- 10:00 a.m.—Meeting of State Medical Bureau Managers, Army and Navy Room.
7:00 p.m.—Banquet, State Medical Bureau Managers, Army and Navy Room.

Tuesday, August 27.

- 8:00 a.m.—Meeting of the House of Delegates, Army and Navy Room, Wilmot D. Read, speaker, presiding.
9:00 a.m.—Annual address of the President, W. B. Penney, Tacoma, Crystal Ballroom, Winthrop Hotel.

SCIENTIFIC PROGRAM

Crystal Ballroom

- 9:50 a.m.—JOHN H. O'SHEA, Spokane, and R. L. ZECH, Seattle: Report of delegates to the A.M.A. convention.
10:20 a.m.—K. K. SHERWOOD, Seattle: "Indications and Contraindications for Cold, Vitamine C, Sulfanilamide and Thiamine Therapy for Chronic Arthritis."
10:50 a.m.—Twenty minutes recess to visit exhibits.
11:10 a.m.—L. A. GREENWOOD, Bellingham: "Newer Drugs in Treatment of General Infections."
11:40 a.m.—AUSTIN G. FRIEND, Seattle: "Treatment of Congestive Heart Failure."
2:00 p.m.—Symposium by the Neoplastic Committee.
2:20 p.m.—SIMEON CANTRIL, Seattle: "Malignant Disease of Head and Neck."
2:40 p.m.—S. F. HERRMANN, Tacoma: "Carcinoma of Stomach and Colon."
3:00 p.m.—DONALD V. TRUEBLOOD, Seattle: "Carcinoma of Breast."
3:20 p.m.—MILO HARRIS, Spokane: "Carcinoma of Uterus."
3:45 p.m.—Twenty minutes recess to visit exhibits.
4:05 p.m.—General discussion of cancer.
4:30 p.m.—Speaker from the National Physicians Committee.
7:00 p.m.—Annual banquet for members and their wives. Informal. Crystal Ballroom. Entertainment. Cover charge.

Wednesday, August 28.

- 9:30 a.m.—R. PHILLIP SMITH, Seattle: "Occiput Posterior and its Management."
10:00 a.m.—EDWIN G. BANNICK, Seattle: "Newer Procedures in Treatment of Pneumonia."
10:30 a.m.—Twenty minute recess to visit exhibits.
10:50 a.m.—The Early Treatment of Wounds.
11:20 a.m.—C. H. HOFRICHTER, Seattle: "Clinical Evaluation of Standard Protamine Zinc and Crystalline Insulin."
12:30 p.m.—Public Relations Committee Luncheon, Roof Garden. All members invited.
2:00 p.m.—Symposium—Common Skin Diseases. S. E. LIGHT, Tacoma; CARLISLE DIETRICH, Tacoma; B. F. BRUENNER, Seattle.
3:30 p.m.—Speaker from the American Medical Association.
3:50 p.m.—Installation of Homer D. Dudley, Seattle, as President of Washington State Medical Association.
4:00 p.m.—Meeting of the House of Delegates, Army and Navy Room. Wilmot D. Read, Tacoma, speaker presiding.
6:30 p.m.—No-host dinner, Winthrop Hotel.

SCIENTIFIC EXHIBITS

- J. E. Stroh—"Allergy."
T. J. Fatherree and Cecil Hurst—"Thromboangiitis Obliterans."
K. K. Sherwood—"Treatment of Chronic Arthritis."
Mrs. B. B. Buchanan and Mrs. Thornton—"Washington Tuberculosis Association."
Roger Anderson—"Castless Method of Treating Shaft Fractures, Permitting Ambulation."
Mrs. J. B. Robertson—"Woman's State Auxiliary."
Hale Haven and Eugene Potter—"Gliomas of the Brain."
C. S. Stone, Jr.—"Treatment of Massive Hemorrhage from Peptic Ulcer."
R. H. Fletcher, State Department of Health—"Chest Roentgenography in Tuberculosis Control."
Neoplastic Committee—"The Problem of Cancer, Diagnosis, Pathology, Treatment, End Results, and Woman's Field Army."
Tacoma Surgical Club—"Complications in Abdominal Surgery."

TECHNICAL EXHIBITS

The Display will be in Junior Ballroom and in Lobby of the Winthrop Hotel.

- Booth 1—The Coca Cola Company.
Booths 2-3—Carnation Company, Milwaukee, Wisconsin.
Booth 4—Westinghouse X-Ray Company, Seattle-Spokane.
Booths 5-6-7—Biddle & Crowther, Inc., Seattle.
Booth 8—Schering Corporation, Bloomfield, N. J.
Booth 9—National Bio-Chemical Company, Los Angeles, Calif.
Booths 10-11—Pet Milk Company.
Booth 12—Philip Morris & Co., Ltd., Inc., New York City.
Booth 13—Shadel Sanitarium, Inc., Seattle.
Booth 14—Holland-Rantos Company, Inc., New York-Chicago-Los Angeles.
Booth 15—The William S. Merrell Company, Cincinnati, Ohio.
Booth 16—Mead Johnson & Company, Evansville, Ind.
Booth 17—Ciba Pharmaceutical Products, Summit, N. J.
Booth 18—Cutter Laboratories, Berkeley, Calif.
Booth 19—Petrolagar Laboratories, Inc., Chicago, Ill.
Booth 20—John Wyeth & Brother, Inc., Philadelphia, Pa.
Booth 21—Standard X-Ray Sales Company, Seattle.
Booth 22—Morning Milk Company, Salt Lake City, Utah.
Booth 23—Aetna Casualty and Surety Company, Hartford, Conn.
Booth 24—Braley's Prescription Pharmacies, Tacoma-Seattle-Portland.
Booth 25—General Electric X-Ray Corporation, Seattle-Spokane-Portland.
Booth 26—Sandoz Chemical Works, Inc., San Francisco, Calif.
Booth 27—Phospho-Soda (Fleet), Lynchburg, Va.
Booth 28—Eli Lilly & Company, Indianapolis, Ind.
Booth 29—J. B. Lippincott Company, London-Philadelphia-Montreal.
Booth 30—Lederle Laboratories, Inc., Seattle-Portland.
Booth 31—H. G. Fischer & Company, Chicago, Ill.
Booth 32—E. R. Squibb & Sons, New York City.
Booths 33-34-35—Shaw Supply Company, Inc., Tacoma-Seattle.

WOMAN'S AUXILIARY

To Washington State Medical Association

Tacoma, Washington, August 25 to 28

Headquarters: Winthrop Hotel

Meetings: Auditorium, Medical Arts Building

Sunday, August 25

4:00-7:00 p.m.—Registration, Winthrop Hotel. (Registration fee \$1.00.)

Note: Tickets for golf and luncheons may be purchased at Registration desk.

6:30 p.m.—Golf dinner (no-host), Roof Garden, Winthrop Hotel.

Monday, August 26

- 8:00 a.m.-5:00 p.m.—Registration, Lobby, Winthrop Hotel.
 8:45 a.m.—Golf tournament at Allenmore Golf Club. Send entry handicap by August 15 to Mrs. Claude Leaverton, 4018 Pacific Avenue, Tacoma.
 Note: Only those women who register may enter the golf tournament.
 11:45 a.m.—State Presidents' No-Host Breakfast, Winthrop Hotel. Past Presidents are urged to attend.
 12:30 p.m.—Luncheon, Tacoma Golf and Country Club.
 2:45 p.m.—Pre-convention Board Meeting, Auditorium, Medical Arts Building.
 7:00 p.m.—Dinner and Entertainment (as guests of the Pierce County Auxiliary), Lakewood Center. Presentation of golf trophies.

Tuesday, August 27

- 8:00-9:00 a.m.—Registration, Lobby, Winthrop Hotel.
 9:00 a.m.—General Meeting, Auditorium, Medical Arts Building.
 Mrs. Luman S. Roach, President, presiding.
 Mrs. Lulu D. Haddon, Parliamentarian.
 Greetings: Mrs. Darcy Dayton, President, Pierce County Auxiliary.
 Response: Presentation of Guests:
 Dr. W. B. Penney, President, Washington State Medical Assn.
 Dr. Homer D. Dudley, President-elect, Washington State Medical Assn.
 Mr. Arthur Anderson, Executive Secretary, Washington State Medical Assn.
 Roll Call of Delegates
 Reading of the Minutes: Mrs. H. E. Wilson.
 Address: Dr. R. H. Fletcher, Director, State Department of Health.
 Reports:
 President, Mrs. Luman S. Roach.
 Recording Secretary, Mrs. H. E. Wilson.
 Treasurer, Mrs. Chauncey B. Jones.
 Auditing Committee, Mrs. J. T. Rooks.
 Corresponding Secretary, Mrs. C. J. Sells.
 Chairmen of Standing Committees:
 Organization: Mrs. H. J. Whitacre.
 Program: Mrs. V. G. Backman.
 Public Relations: Dr. Phyllis Leibley.
 Cancer Education: Mrs. Frank Boersma.
 Hygeia: Mrs. J. B. Robertson.
 Legislative: Mrs. E. L. Calhoun.
 Press and Publicity: Mrs. S. H. Tashian.
 Exhibits: Mrs. P. C. Willson.
 Archives: Mrs. E. L. Brinson.
 Revisions: Mrs. G. E. Hoxsey.
 Report of Committee on Registration.
 Report of Nominating Committee: Mrs. R. E. Ahlquist.
 Election of Officers.
 1:00 p.m.—Luncheon honoring Mrs. R. E. Mosiman, National President-elect.
 Reports of Delegates to National Convention: Mrs. George Hoxsey, Mrs. W. Ray Jones, Mrs. R. E. Mosiman.
 7:00 p.m.—Annual banquet for all doctors and wives, Crystal Ballroom, Winthrop Hotel. Informal. Entertainment.

Wednesday, August 28

- 9:00 a.m.—General Meeting, continued:
 Minutes of Tuesday Session: Mrs. H. E. Wilson.
 Recommendations of Vice-President and reports of County Presidents, as follows:
 First Vice-President, Mrs. Frank Fursey, Spokane, introducing Mrs. Max S. Wright, Spokane County; Mrs. E. L. Whitney, Walla Walla County.

Second Vice-President, Mrs. James H. Berge, Seattle, introducing Mrs. Arthur Wade, King County; Mrs. Elmer Cornell, Kitsap County.

Third Vice-President, Mrs. G. A. LeCompte, Shelton, introducing Mrs. Darcy Dayton, Pierce County; Mrs. Arthur Skarperud, Grays Harbor County.

Fourth Vice-President, Mrs. H. Leslie Frewing, Vancouver, introducing Mrs. L. E. Hockett, Clark County; Mrs. H. D. Fritz, Cowlitz County.

Fifth Vice-President, Mrs. Roger G. Coglon, Yakima, introducing Mrs. L. C. Miller, Chelan County; Mrs. Delmar F. Bice, Yakima County.

Sixth Vice-President, Mrs. David J. Lawson, Mt. Vernon, introducing Mrs. Ralph Peterson, Skagit County; Mrs. C. B. Jones, Snohomish County; Mrs. A. MacRea Smith, Whatcom County.

10:30 a.m.—Address by Representative of American Medical Association.
 Final Report on Registration: Mrs. D. H. Bell.
 Report of General Chairman: Mrs. H. J. Whitacre.
 Report of Resolutions Committee.
 Announcements.

11:30 a.m.-12:30 p.m.—Conference of State Chairmen with their respective county Chairmen.

1:00 p.m.—Annual Auxiliary Luncheon.
 Presentation of Hygeia Prize: Mrs. J. B. Robertson.
 Presentation of Prizes in Philanthropic Fund Contest.
 Installation of Officers.

3:00 p.m.—Postconvention Board Meeting.

6:30 p.m.—No-Host Dinner, Winthrop Hotel.

Convention Chairmen

General Chairman: Mrs. H. J. Whitacre.
 Decorations: Mrs. W. H. Goering.
 Exhibits: Mrs. J. B. Robertson.
 Finance: Mrs. Scott Jones.
 Golf: Mrs. Claude Leaverton.
 Hostesses: Mrs. W. B. Penney, Mrs. Darcy M. Dayton.
 Press and Publicity: Mrs. George J. Vandenberg.
 Registration and Credentials: Mrs. D. H. Bell.
 Social: Mrs. Weldon Pascoe.

COMMITTEE ON MEDICAL PREPAREDNESS

Raymond L. Zech, Delegate to American Medical Association, has been appointed representative in Washington State for the Committee on Medical Preparedness of the American Medical Association. Dr. Zech was appointed by officers of the state association and approved by the Board of Trustees at their last meeting. The appointment was forwarded to the Committee on Medical Preparedness which met in Chicago on July 19, where his appointment was officially confirmed.

Dr. Zech will report to the Committee on Medical Preparedness through John H. O'Shea of Spokane who is a member of the national committee and who represents the national committee for Montana, Idaho, Oregon and Washington. In his letter to Dr. Zech, confirming his appointment, Olin West, Secretary and General Manager of the American Medical Association, urged that more prompt action should be taken by physicians receiving the questionnaires to fill out and return them immediately.

MEDICAL NOTES

RAILROAD SURGEONS ELECT. At the meeting of Great Northern Railroad Surgeons at Spokane June 28-29, G. M. Williamson of Grand Forks, North Dakota was elected president; H. E. Wheeler of Spokane, first vice-president; E. W. Rimer of Breckenridge, Minnesota, second vice-president; T. L. Hawkins of Helena, Montana, third vice-president; and Roscoe C. Webb of Minneapolis, Minnesota, secretary-treasurer. The 1941 meeting will be held in St. Paul.

OTO-OPHTHALMOLOGICAL SOCIETY MEETS. The 1940 meeting of Pacific Coast Oto-Ophthalmological Society was held at Davenport Hotel, Spokane, June 24-26. The program included a motion picture section which ran concurrently with the program of papers. A large registration from all parts of the Pacific Coast enjoyed the meeting which provided discussion of a number of important subjects. A feature of the entertainment for visitors was a trip to Grand Coulee Dam.

Election of officers resulted in naming Isaac Jones of Los Angeles, president; A. B. Dykman of Portland, first vice-president; L. Pugmire, of Ogden, Utah second vice-president; C. Ellen Dickey of San Francisco, secretary-treasurer. The 1941 meeting will be held in Los Angeles.

SHARPLES HONORED. C. W. Sharples of Seattle was honored July 6, when 300 of his friends and associates gave him a dinner at the Olympic Hotel. It was in celebration of the completion of fifty years of practice and was in token of the gratitude of the profession for the many activities of Dr. Sharples on behalf of the medical profession. Long a leader in the medical society, his sage advice and sound judgment have served the profession in good stead throughout his many years of activity. Still vigorous and able, he maintains his practice and fills an important position in affairs of the State Medical Association.

GOLDEN WEDDING. Dr. and Mrs. C. A. Smith of Seattle celebrated their Golden anniversary July 2. Receptions were held afternoon and evening at their home and a large number of friends and associates joined in honoring the couple.

BRIAN KING. The 1940 book-of-the-year issued by Encyclopedia Britannica lists Brian King's Laryngeal Reconstruction as one of five significant surgical contributions of the year.

NAVY YARD HOSPITAL ENLARGED. P. W. A. allotment of \$90,000 has been allowed for completion of a wing at the United States Navy Yard hospital at Bremerton.

TACOMA OPENS VENEREAL CLINIC. Two stories of a downtown office building have been leased by the city of Tacoma, where the city, the U. S. Public Health service and Washington State Health Department will operate a venereal clinic.

EPIDEMIOLOGIST NAMED. Gennaro Basilicato, formerly of Battle Creek, Michigan, was recently appointed epidemiologist of Yakima City and County Health Department.

KING COUNTY SURVEYS HEALTH. Seattle Welfare Council has recently received approval of King County Medical Society for the survey of public health work, free and part-pay medical care in King County.

LOCATION. Harold J. Madsen, formerly of Seattle, has become associated with Walter Ebeling of Mt. Vernon.

WEDDINGS: Rodney B. Hearne and Miss Dorothy Leede, both of Seattle, were married at St. Mark's Cathedral July 3. Thomas N. Meade of Goldendale and Miss Roselia Turley of Yakima were married in the latter city June 22. W. Vincent Meyer of Everett and Miss Dorothy Gilmore of Butte were married in Butte June 22. Herman Hinden of Ritzville and Miss Virginia Larse of Wenatchee were married June 17. Leslie M. Chaffee of Coupeville and Miss Edna Vander Stoep of Oak Harbor were married June 24. Thomas E. Canning of Colville and Miss Mary Lou Ralph of Spokane were married at Clark's Ford, Idaho, August 3.

DOCTORS WANTED. Washington State Medical Association's general office has on file the following position requests for physicians: (1) Jefferson County is seeking a full-time physician to act as public health officer. He is granted a comfortable salary, two nurses and one clerk assistant. (2) Physician established over a period of years in a town of 800, southeastern Washington, near Columbia River, wants an associate or assistant. This town is fairly prosperous with large lumber mill. (3) Physician who has established substantial practice, owns and operates ten-bed hospital in sizable town, is seriously ill and wants assistant to assume complete charge for one year. It may become permanent. (4) Spokane physician wants doctor to take over excellent practice in small community not far from Spokane. Send inquiries to Executive Secretary, Washington State Medical Association, 225 Cobb Bldg., Seattle.

DIPHTHERIA REPORTED. Kittitas County reported two cases of diphtheria in July. These are the first such cases in more than two years.

A. J. HELTON of Yakima suffered a cerebral hemorrhage in June.

J. W. HENDERSON of Longview retired July 1 as manager of the Cowlitz General Hospital.

OBITUARIES

DR. WILLIAM FRANK EDMONDS of Seattle was killed in an automobile accident near Twin Falls, Idaho, July 3. He was 68 years of age. He received his medical education at State University of Iowa, Iowa City, Iowa, graduating in 1904. Following his graduation he practiced in California for several years and came to Seattle in 1926.

DR. ROBERT E. GOLDEN of Walla Walla, Washington, died June 30, aged 65. He received his medical education at University of Oregon Medical School, graduating in 1904. He had practiced a number of years in Coos Bay and Medford, Oregon, and moved to Walla Walla twenty-six years ago. He retired from active practice about three years ago.

**OREGON STATE
MEDICAL SOCIETY****SIXTY-SIXTH ANNUAL
MEETING, EUGENE, SEPT. 4-7**

OREGON STATE MEDICAL SOCIETY
SIXTY-SIXTH ANNUAL MEETING, EUGENE
SEPTEMBER 4-7, 1940

PRESIDENT'S MESSAGE

Eugene, Oregon, July 25, 1940.

This is a personal invitation from your President to come and enjoy the many features of the sixty-sixth meeting. It is also a promise that you will carry away a great deal of benefit and you will long remember the entertainment and fellowship in store for you.

In times like the present, when the very future of the independent practice of medicine is at stake, it is vitally important that every member give thought and assistance to the welfare of medicine from the standpoint of the public and of the profession. Delegates should familiarize themselves with the problems of organized medicine in general and the problems in their own districts in particular, and come prepared to take an active part in the deliberations of their House of Delegates.

All members of the Society are welcome to attend the meetings of the House of Delegates which convenes each morning at a seven o'clock breakfast. All members should hear the report of our Delegate to the American Medical Association and become informed concerning the problems of organized medicine from a national standpoint. The report of the activities of the Bureau of Medical Economics will likewise be instructive and of great interest. All the standing committees will submit annual reports which will give an insight into the many activities of the Society. Every member should come prepared to express his views on important problems, such as postgraduate study, public relations and medical economics. In this way only can the representative and democratic nature of our organization be preserved.

The wife of every member should attend the meeting and take an active part in the program of the Auxiliary. She will find a full program awaiting her and will also enjoy the many forms of entertainment arranged by the local auxiliary committee. Eugene cordially invites you to this year's meeting, and remember Eugene is noted for its hospitality.

CHARLES E. HUNT, *President*



CHARLES E. HUNT, President

A POSTGRADUATE OPPORTUNITY

New knowledge in the field of medicine is developing so rapidly that, to keep abreast of current advances, physicians must have available opportunities for continual study. It is the obligation of organized medicine to provide these opportunities so far as its resources permit.

In recognition of this obligation, the Society has adopted a policy of providing postgraduate instruction for the membership. During the next three years this instruction will consist of a centralized course to be offered in connection with the annual meeting.

This program is being launched at the Eugene meeting, at which three days of intensive instruction in medicine, endocrinology, surgery and orthopedics will be offered by guest clinicians of national reputation.

EUGENE THE CONVENTION CITY IDEAL

Eugene, the county seat of Lane county, offers an ideal setting for the 1940 meeting. It lies at the southern end of the beautiful Willamette Valley. It is the service city of the central valley and the tributary area, with a population of 25,000 people, in addition to the University of Oregon enrollment of 3,500 students.

Geography of Lane County Interesting

Central Lane county nestles between wooded hills, a rich valley plain, through which flow the McKenzie, Willamette and Long Tom rivers; yet the county varies from sea level on the west to an elevation of 10,354 feet in the Cascade mountains on the east. The attractive smaller incorporated cities in the county include Coburg, Cottage Grove, Creswell, Florence, Junction City and Springfield. Lane county includes 2,958,302 acres, of which 361,190 acres are cultivated or cleared pasture on operating farms. The balance of the land is largely covered with timber, Douglas fir (the King tree) predominating. Of the total timbered area in the county, 1,283,802 acres are under private ownership and 1,347,950 acres are in the Willamette and the Siuslaw National Forests, available for selective cutting.

The county's 361,190 acres of cultivated land lie almost entirely in the valleys of the Willamette and McKenzie rivers and their tributaries, and in the Siuslaw river valley on the coast. The Siuslaw river, between Florence and Mapleton, has recognized value for navigation, but the other streams in the county serve small craft and provide a variety of opportunities for excellent fishing.

Industries Well Suited to Resources

Lane county's 2,500,000 acres of Douglas fir timber support eighty sawmills, employing 6,000 men with an annual payroll of 5 to 6.5 million dollars. This is approximately 75 per cent of the county's industrial payroll. Over 75 per cent of the rail tonnage originating in the county is lumber and timber products. The Southern Pacific Company divisional shops and other employees total 850 men, for an annual payroll of \$1,400,000.

The Eugene Woolen Mills do a \$300,000 volume of business annually, with a payroll of \$100,000; 250,000 to 300,000 pounds of wool are purchased each year from this locality.

The Eugene Fruit Growers Association had a 1937 payroll of \$470,273, employing from 125 during the winter to 1,500 workers during the summer season, and 2,000 additional harvest workers in the fields. The 18,000 tons of produce handled by the plant made possible gross sales of \$1,851,314. With 75 per cent of the pack being vegetables, the Eugene Fruit Growers Association is the largest canner of vegetables in the Northwest, the largest canner of green beans in the world, and there are more varieties of products canned here than in any other plant in the world.

Chase Gardens operate one of the largest greenhouses on the West Coast, with 7.5 acres under glass. Leading flowers raised include roses, orchids and gardenias. Leading winter vegetables are cucumbers and tomatoes. Chase

Gardens' flowers and vegetables are distributed over most of the West Coast and the Northwest.

Lane county offers mineral opportunities in the Bohemia and Blue river regions within 50 miles south and east of Eugene. Oregon ranks second in production of quicksilver, and Oregon's second largest quicksilver mine is located at Black Butte in this region. Gold, copper, refractory clays, arsenic and other minerals are likewise found here. An abundant supply of sand, gravel and crushed stone is of great importance locally. A number of mineral hot and cold springs are found in the Cascade mountain area east of Eugene.

A Lively Shopping Center

Eugene's population increased 78.4 per cent from 1920 to 1930. In 1930, 94.5 per cent were native-born white, with Canada, England, Norway and Germany as source of most of the foreign-born. There is practically no colored or Oriental population, and more than half of all families own their own homes.

The diversified sources of Lane county income, together with the distance from other Oregon cities, stabilize the greater volume of sales enjoyed by Lane county merchants. The 1935 census reports 833 retail stores in Lane county, 431 of which are in Eugene. Lane county stores do an annual business of \$16,197,000, of which \$11,459,000 was reported from Eugene.

Transportation

Eugene's central location in Oregon, both geographically and by population distribution, supports the hospitable invitations extended to regional, state and local conventions. Served by the Southern Pacific's main and several branch lines, as well as by the Oregon Electric freight line to Portland, adequate rail service is maintained. Eugene is a concentration point of scenic and main trunk highways; U. S. 99, Oregon 36 (connecting at Florence with Coast Highway U. S. 101), scenic McKenzie U. S. 28 and Oregon 58 (the through fast highway to Eastern Oregon and California points).

Home of University of Oregon

The ever-green, tree-clad University of Oregon campus is located but ten blocks from down-town Eugene. Further enhancing the natural beauty of the campus is the mill race winding through the sorority and fraternity district, offering the students a convenient place in which to swim, canoe and present the annual Canoe Fete during Junior Week-End each spring. The home atmosphere, the thirty churches and the neighborly acceptance of the students contribute to parents' approval of Eugene as the home city while their children attend university.

The attractive group of buildings on the imposing hundred acre campus exemplifies the spirit of progress and foresight first shown by early Oregon pioneers and later carried brilliantly by the populace of Oregon. That spirit is deep in the tradition of the University.

The central structure carries over its portals the inscription, "Ye Shall Know the Truth and the Truth Shall Make Ye Free." It was from such an inspiration that the State of Oregon has developed a state supported system of higher education which, based on comparative population, stands second to none in the United States.

The University stands high among the institutions of

higher learning which offer advanced curricula in the arts, letters, social science and specialized professional schools. From its limited beginning, the University has grown to include professional schools of architecture and allied arts, business administration, education, journalism, law, music and physical education. The student of medicine may take

far cry from the little one building campus of 1876. With its faculty of over 300 instructors, student body of 3,500, the 100 acre campus, its thirty-six major buildings, numerous minor structures and extensive athletic fields, the University exceeds the fondest dreams of its far-sighted founders.



UNIVERSITY OF OREGON MEDICAL SCHOOL LIBRARY

his preparatory work on the Eugene campus before entering the University's medical school at Portland.

To augment the specialized courses, the University offers a particularly well rounded curriculum in the sciences and liberal arts. The classics, languages, practical sciences such as chemistry, botany, mathematics, zoology, physics and social sciences, which include history, philosophy, political science, religion, sociology, economics, psychology, anthropology, geography and many others, are treated thoroughly by a faculty of which each member is an expert. Home economics and nursing education draw large numbers of coeds.

In addition to the activities of the school of physical education, there is the student promoted intercollegiate athletic program. Oregon athletic teams now rate with the leaders of the entire United States in the major sports and the trophy case tells of many a championship, northern division, Pacific Coast and even national.

Democracy, free thought and free student enterprises have been three cardinal objectives of the University's development. Student responsibility has developed in consonance with other phases of education. Students have their own government, issue newspapers and periodicals, sponsor educational activities and take part in scores of student enterprises.

To those who believe "the proof of the pudding is in the eating," the University can offer its own proof in the outstanding records of its alumni. Among the 35,000 students who have passed through the University's doors since its founding in 1876 are leaders in scores of occupations. Physicians, architects, teachers, artists, writers, ministers, business men, political leaders, in almost any vocation that may be mentioned, Oregon men and women are to be found at the top.

This picture of Oregon's present educational mecca is a

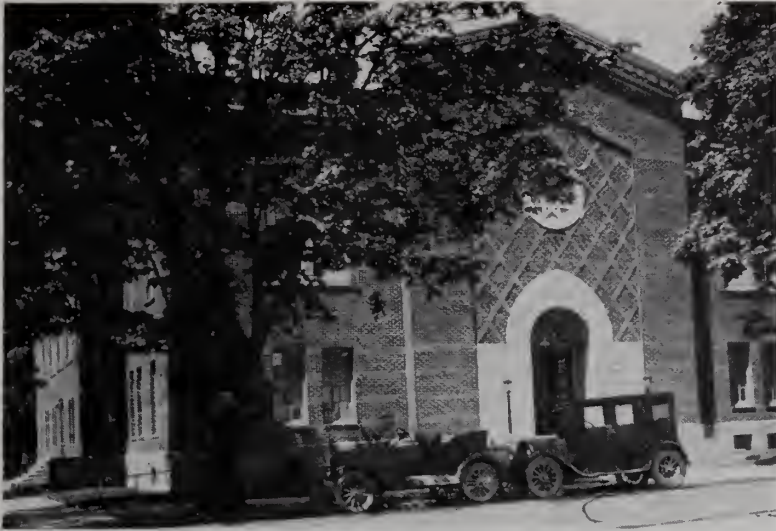


UNIVERSITY OF OREGON LIBRARY DEADY HALL
Oldest Building on University of Oregon Campus

Eugene a Medical Center

Eugene is the medical center of the Southern Willamette Valley. Its hospital facilities include the Eugene Hospital with seventy beds and the Sacred Heart General Hospital with one hundred and fifteen beds. An extensive addition to the latter institution of one hundred beds will be made soon. During 1939, 5,387 patients were cared for and 792 infants were delivered in the two hospitals.

The city has forty-six physicians engaged in private



MASONIC TEMPLE

Headquarters For Scientific Sessions and Exhibits

practice, including representation in the specialties of surgery, obstetrics and gynecology, orthopedic surgery, urology, ophthalmology and otolaryngology, pediatrics, internal medicine, radiology and clinical pathology.

The University of Oregon Student Health Service, which provides certain limited services to students, maintains an infirmary with twenty-five beds. The personnel of the Health Service includes three physicians on a full-time basis, one physician on a part-time basis, seven registered nurses and two technicians.

Lane county has a full-time health department, whose personnel consists of a full-time health officer, an assistant health officer, who divides his time with the Eugene public schools, eight public health nurses and an office secretary.

Recreation of Mountains or Beaches

Readily accessible by good paved highways, radiating from Eugene, are the scenic Cascade mountains within two hours drive to the east up the beautiful



SNOW SPORTS BY THE THREE SISTERS, TWO HOURS BY HIGHWAY
FROM THE GREEN GRASS OF EUGENE

valleys of the McKenzie and Willamette rivers. In two hours drive to the west, low-lying Coast Range mountains are crossed and the smooth beaches are reached or the rugged shore line of the majestic Pacific ocean is seen.

McKenzie Highway Through Lava Flow

U. S. Highway 28, across the McKenzie pass, passes through one of the most recent lava flows in the United States, many square miles of rock so gnarled and jagged that even the rugged mountain hemlock can scarcely find footing. A mile to the northwest and a thousand feet higher stands Belknap Crater, source of much of the surrounding lava. Beyond, on a clear day, Mt. Hood, Mt. Jefferson, Mt. Washington and Three Fingered Jack are outlined against the blue horizon. To the south rise the snow covered Three Sisters to an elevation of over 10,000 feet. These are apparently young mountains which have grown up within the wreck of the earlier existing Mt. Multnomah, an ancestor of tremendous proportions.

Smooth Beaches and Rugged Shore Line

Driving along Coast Highway U. S. 101 in Western Lane county, a chain of beautiful lakes is reached, which for the most part are rivers dammed by migrating sand dunes, some of which are now covered by forests. These lakes offer boating and good fishing, with fine resort accommodations on the shores. For picnics and play there are miles of smooth beaches, with special camping accommodations maintained by the Siuslaw National Forest and the State Park. Enjoy bathing in the surf with the incoming tide. The weather and the water are always tempered by the Pacific air-conditioned breezes. From Heceta Head to the north, Highway 101 directly overlooks the ocean for most of the next fifty miles, affording a magnificent panorama of the Pacific.

Stream, Lake and Deep-Sea Fishing

Within a few miles east of Eugene and extending into the high Cascade mountains is the famous McKenzie river, the Willamette river and their tributaries. In the rushing waters of these streams are cutthroat, dolly varden, rainbow and speckled trout. High in the Cascade area of both the Willamette and McKenzie passes, are the Skyline Lakes with good fishing for cutthroat, dolly varden, eastern brook, loch laven and rainbow trout.

POSTGRADUATE PROGRAM



GUEST SPEAKERS

1. FRED M. SMITH, State University of Iowa College of Medicine, Iowa City, Iowa.
2. DONALD V. TRUEBLOOD, Neoplastic Clinic; King County Hospital, Seattle, Washington.
3. ARTHUR STEINDLER, State University of Iowa College of Medicine, Iowa City, Iowa.
4. HANS LISSER, University of California Medical School, San Francisco, California.

No registration fee for members. Registration fee of \$10 for eligible nonmembers. Members of other state medical associations are cordially invited and may attend without fee.

MEDICINE

Fred M. Smith.

*Professor of the Theory and Practice of Medicine,
State University of Iowa College of Medicine.*

1. "Diagnosis and Treatment of Coronary Artery Disease."
2. "Cardiac Therapy."
3. "Prognosis and Treatment of Rheumatic Heart Disease." Round-Table Discussion: "Heart Disease."

ENDOCRINOLOGY

Hans Lissner.

*Clinical Professor of Medicine,
University of California Medical School.*

1. "Indications for and Proper Use of Synthetic Male Hormone; Testosterone Propionate."
2. "Newer Synthetic Female Sex Hormone Preparations; Stilboestrol and Estradiol Dipropionate, and Their Administration."
3. "Obesity and Leanness." Round-Table Discussion: "Endocrine Aspects of Growth."

SURGERY

Donald V. Trueblood.

*Director, Neoplastic Clinic, King County Hospital,
Seattle, Washington.*

1. "Lesions of the Lip, Oral Cavity and Jaw."
2. "Tumors of Soft Tissue Origin, Including the Neck."
3. "Tumors of the Breast." Round-Table Discussion: "The General Problem of the Therapy of Malignant Tumors."

ORTHOPEDIC SURGERY

Arthur Steindler.

*Professor of Orthopedic Surgery,
State University of Iowa College of Medicine.*

1. "Foot Ailments."
2. "Low Back Pain."
3. "Disabilities About Shoulder Joint." Round-Table Discussion: "Tendon Repair."

GENERAL INFORMATION

Headquarters

Headquarters for the meeting will be the Masonic Temple, 10th Avenue and Olive Street. All activities, including Scientific Sessions and Scientific and Technical Exhibits, will be housed in this building.

Woman's Auxiliary Headquarters

Headquarters for the Woman's Auxiliary will be the Eugene Hotel.

Registration and Issuance of Badges

Members should register at the registration desk in Masonic Temple as soon as they arrive at the meeting. Membership cards for 1940 should be presented at the time of registration, which means that annual dues must be paid prior to or at the time of registration.

House of Delegates

Breakfast meetings of the House of Delegates will be held each day at 7:00 o'clock at the Osburn Hotel. The House will receive annual reports and recommendations of committees and consider a number of basic questions of policy. All members are privileged to attend the meetings and are earnestly urged to do so.

Annual Banquet

The annual banquet will be held Friday, September 6, at 6:30 p. m., at the Eugene Hotel. Wives of physicians attending the meeting are invited. The banquet will be informal.

Golf Tournament

The Fourteenth Annual Oregon Medical Golf Tournament will be held Saturday, September 7 at 10:00 a. m., at the Eugene Country Club. A greens fee of \$1 will be charged. The permanent trophy will again be open to competition. This trophy must be won three times in order to entitle the holder to permanent possession. It is awarded annually for the lowest net score. Vern W. Miller of Salem won the trophy last year. Additional prizes will also be offered.

Recreation

A wide variety of recreation will be available, including fishing, horseback riding and trips to scenic points.

Make Hotel Reservations Now

It is highly important that delegates and members make early reservations of rooms by communicating directly with the hotel of their choice. Delegates will find it convenient to register at the Osburn Hotel where the sessions of the House of Delegates will be held.

HOTEL RATES

OSBURN HOTEL

Without Bath	
Single	\$1.25 up
Double	1.75 up
Twin beds	2.50 up
Without Bath, but with Private Lavatory	
Single	\$1.75 up
Double	2.25 up
With Shower	
Single	\$2.25 up
Double	2.75 up
Twin beds	3.50 up
With Bath	
Single	\$2.25 up
Double	2.75 up
Twin beds	3.50 up
2 Room Suites, with connecting bath	
2 persons	\$4.00 up
3 persons	4.50 up
4 persons	5.00 up

EUGENE HOTEL

Without Bath, but with private lavatory	
Single	\$1.75 to \$2.50
Double	2.75 to 3.50
Twin beds	3.50 to 4.00
With Bath or Combination Tub and Shower	
Single	\$2.50 to \$3.50
Double	3.50 to 4.50
Twin beds	4.50 to 5.00
Parlor Suites, with Connecting	
Bath	\$5.00 to \$7.50

SCIENTIFIC PROGRAM

Wednesday, September 4.

Masonic Temple.

- Charles E. Hunt, Eugene, or George E. Henton, Portland, Presiding.
- 7:00 a.m.—Breakfast Meeting of House of Delegates, Osburn Hotel. All Members are invited to Attend.
- 9:00 a.m.—Registration Masonic Temple.
- 9:30 a.m.—“Education of the Diabetic Patient.”..... Blair Holcomb, Portland.
- 10:00 a.m.—“Foot Ailments.”.....Arthur Steindler, Iowa City.
- 11:00 a.m.—“Lesions of the Lip, Oral Cavity and Jaw.” Donald V. Trueblood, Seattle.
- 12:15 p.m.—Luncheon Osburn Hotel.
- Round-Table Discussion: “The General Problem of Therapy of Malignant Tumors,” led by Donald V. Trueblood, Seattle.
- 2:00 p.m.—“Diagnosis and Treatment of Coronary Artery Disease.” Fred M. Smith, Iowa City.
- 3:00 p.m.—Recess to Visit Scientific and Technical Exhibits
- 3:30 p.m.—“Indications for and Proper Use of Synthetic Male Hormone; Testosterone Propionate.”..... Hans Lisser, San Francisco.
- 4:30 p.m.—“Chronic Myocarditis in a Child: Report of Case.” Irvin R. Fox and R. M. Overstreet, Eugene.
- 5:00 p.m.—“Paroxysmal Flutter of the Diaphragm Simulating Coronary Thrombosis: Report of Unusual Case Controlled by Refrigeration of the Phrenic Nerve.” Morton J. Goodman, Portland.

Thursday, September 5.

- 7:00 a.m.—Breakfast Meeting of House of Delegates, Osburn Hotel. All members are Invited to Attend.
- Charles E. Hunt, Eugene, or George E. Henton, Portland, Presiding.
- 9:00 a.m.—“Fluid Administration by Parenteral Methods.” (By invitation)
1. “General Considerations.”...Albert W. Holman, Portland.
2. “Surgical Application.”.....Louis P. Gambee, Portland.
3. “Medical Application.”.....Homer P. Rush, Portland.
4. “Laboratory Guides.”...Thomas D. Robertson, Portland.
- 10:00 a.m.—“Low Back Pain.” ..Arthur Steindler, Iowa City
- 11:00 a.m.—“Tumors of Soft Tissue Origin, Including the Neck.” Donald V. Trueblood, Seattle.
- 12:15 p.m.—Luncheon Osburn Hotel.
- Round-Table Discussion: “Tendon Repair,” led by Arthur Steindler, Iowa City
- 2:00 p.m.—“Cardiac Therapy.”...Fred M. Smith, Iowa City.
- 3:00 p.m.—Recess to Visit Scientific and Technical Exhibits
- 3:30 p.m.—“Newer Synthetic Female Sex Hormone Preparations; Stilboestrol and Estradiol Dipropionate, and Their Administration Orally, Parenterally and by Absorption Through the Skin and Mucous Membrane.” Hans Lisser, San Francisco.
- 4:30 p.m.—“Surgical Responsibility in Tonsillectomy,” Lewis W. Jordan, Portland
- 5:00 p.m.—“Disturbance of Function vs. Functional Disturbance”.....Charles P. Wilson, Portland

- 6:00 p.m.—Dinner Osburn Hotel
 Round - Table Discussion: "Endocrine Aspects of Growth," led by Hans Lissner, San Francisco.
 8:00 p.m.—Smoker and Entertainment.....Osburn Hotel

Friday, September 6

- 7:00 a.m.—Breakfast Meeting of House of Delegates,
 Osburn Hotel
 Charles E. Hunt, Eugene, or George E. Henton, Portland, Presiding.
 All Members Are Invited to Attend.
 9:00 a.m.—"Rebuilding the Alveolar Process and Buccal Sulcus".....A. G. Bettman, Portland
 9:30 a.m.—"Surgical Management of Gallbladder Disease,"
 Martin A. Howard, Portland
 10:00 a.m.—"Disabilities About the Shoulder Joint,"
 Arthur Steindler, Iowa City
 11:00 a.m.—"Tumors of the Breast"
 Donald V. Trueblood, Seattle
 12:15 p.m.—Luncheon Osburn Hotel
 Round-Table Discussion: "Heart Disease," led by Fred M. Smith, Iowa City.
 2:00 p.m.—"Prognosis and Treatment of Rheumatic Heart Disease".....Fred M. Smith, Iowa City
 3:00 p.m.—Recess to Visit Scientific and Technical Exhibits
 3:30 p.m.—"Obesity and Leanness,"
 Hans Lissner, San Francisco
 4:30 p.m.—"Use of Avertin as a Basal Anesthesia in the Elderly Urologic Patient,"
 Charles D. Donahue and Ronald C. Romig, Eugene
 5:00 p.m.—"Some Uses and Interpretations of Blood Chemistry".....Frank S. Dietrich, Portland
 6:30 p.m.—Annual Banquet (Informal).....Eugene Hotel

Saturday, September 7

- 7:00 a.m.—Breakfast Meeting of House of Delegates,
 Osburn Hotel
 All Members Are Invited to Attend.
 9:00 a.m.—Business Session and Election of Officers,
 Osburn Hotel
 10:00 a.m.—Fourteenth Annual Medical Golf Tournament,
 Eugene Country Club
 Horseback Riding, Fishing.

SCIENTIFIC EXHIBIT

1. "Coxa Plana (Legg-Calve-Perthe's Disease)". Donald B. Slocum, M.D., Eugene.
2. "Pathological Exhibit." Pathological Department, Oregon State Hospital, Salem.
3. "Disease Prevention Services." Oregon State Board of Health, Portland.
4. "Vitamin E Deficiency and Muscle Dystrophy" (Motion Picture). Ira A. Manville, M.D., Division of Nutrition, Department of Medicine, University of Oregon Medical School, Portland.
5. "Medical Library Service of the University of Oregon Medical School." Miss Bertha Hallam, Librarian, Portland.

WOMAN'S AUXILIARY

Annual Meeting
 September 5-7
 Headquarters: Eugene Hotel

PROGRAM

Thursday, September 5

- 10:00 a.m.—Registration
 11:00 a.m.—Business Meeting
 1:00 p.m.—Luncheon
 Advisory Committee, Special Guests
 1. Greetings from the Oregon State Medical Society,
 Charles E. Hunt, President
 2. Lecture: "Hypothyroidism" (Illustrated by Motion Pictures in Color).
 Hans Lissner, Professor of Clinical Medicine,
 University of California Medical School

- 2:30 p.m.—Business Meeting
 7:00 p.m.—Dinner

Friday, September 6

- 8:30 a.m.—Breakfast Honoring Founders and Past-Presidents
 10:00 a.m.—Business Meeting
 1:00 p.m.—Luncheon. Guest speaker to be announced later.
 3:00 p.m.—Business Meeting
 6:30 p.m.—Annual Banquet (Informal) with Medical Society
 Saturday, September 7
 10:00 a.m.—Golf Tournament

MEDICAL NOTES

MEDICAL LIBRARY ASSOCIATION, which met in Portland the latter part of June, chose Ann Arbor as its meeting place for 1941. Colonel Harold W. Jones was reelected president, and Anna C. Holt was reelected secretary.

NORTHWEST MEDICAL ASSOCIATION. Mathew C. Riddle of Portland was chosen as president-elect of Pacific Northwest Medical Association at its recent meeting in Spokane. Donald Palmer of Spokane was installed as president by the retiring president, Charles E. Sears.

O. R. HESS has sold his practice in Myrtle Creek to Verne L. Adams of Eugene and plans to form a partnership with E. B. Stewart of Roseburg after a short postgraduate course in the East.

ALEXANDER BRADFIELD has opened offices in Tillamook with Drs. Robinson and Wiseman. Dr. Bradfield is a graduate of Wayne College of Medicine and interned at General Hospital in St. Louis. He took postgraduate work in University of Pennsylvania.

CHARLES H. BARR, who has recently completed his internship at St. Vincent's Hospital in Portland, has entered into a partnership with Edwin A. Hendry. He will open offices in Canby with Dr. Hendry.

SOCIETY MEETINGS

POLK, YAMHILL AND MARION COUNTY MEDICAL SOCIETY. The June meeting of Polk, Yamhill and Marion County Medical Society was held June 11 in Salem, and was addressed by Gifford Sietz of Portland on "Office Gynecology."

JACKSON COUNTY MEDICAL SOCIETY. The last meeting of Jackson County Medical Society before the summer recess was held in Ashland on June 26. R. E. Posten gave an interesting talk on his experiences in practicing medicine in Ecuador.

OREGON NEUROPSYCHIATRIC SOCIETY held its second meeting in University of Oregon Medical School Library May 23. The following officers were elected: E. C. Burkes, president; Merle Margason, vice-president; W. C. Pantan, secretary-treasurer, all of Portland.

OBITUARIES

DR. G. CLOUD ESHELMAN of Portland died June 26, at the age of 81. The cause of death was cerebral hemorrhage.

DR. FERDINAND P. FISCH of Portland died at home June 30 at the age of 65. The cause of death was ruptured diverticulum with peritonitis and bronchpneumonia.

IDAHO STATE MEDICAL ASSOCIATION



FORTY-EIGHTH ANNUAL MEETING, SUN VALLEY, SEPT 11-14

IDAHO STATE MEDICAL ASSOCIATION

FORTY-EIGHTH ANNUAL MEETING

SUN VALLEY

September 11-14, 1940

After all is said about the importance of a fine formal program, the matter of better acquaintance, the informal discussion and the good fellowship among the fraternity is the most desirable of the gathering.

F. M. COLE, *President*

WHAT IS SUN VALLEY?

Cradled in the scenic Sawtooth mountains of Idaho, Sun Valley has rapidly forged to the top rank among America's playground resorts. Originally the mecca for ski lovers from all parts of the nation, the outdoor resort has expanded its attractions until this year it presents as varied and pleasure-filled offerings for vacationers and conventioners in summer and fall as it does during the winter skiing months.

For those who like real fishing, the finest trout fishing in America, Sun Valley is the ideal. The resort this summer added a new base camp, set in rugged grandeur of the primitive area, an easy pack trip by horseback from the Lodge itself. From this camp fishermen may penetrate to swift flowing mountain streams for the type of angling that can not be found anywhere near large centers of population. Fishermen who don't wish to pack in to the farther streams, such as those who do their fishing as part of convention entertainment, can find excellent spots within easy auto run of the Lodge.

For those who want golf, the Sun Valley course is termed the sportiest for hundreds of miles. Its popularity is shown by the fact that the Idaho state amateur golf tournament was held on this course in July.

Tennis? Topnotch facilities. Riding? The best. Swimming? Pools at both the Lodge and Challenger Inn are heated to exactly the right temperature. Ice skating? You can do it in midsummer and early fall on the unique artificial ice rink near Sun Valley Lodge.

Added to these attractions are the fine cuisine and restful atmosphere of the eating places in the Lodge and Inn. And for evening fun the "frontier" town of Ketchum is lure No. 1 for Sun Valley patrons from every corner of America.



FERN M. COLE, *President*

PRESIDENT'S MESSAGE

Caldwell, Idaho, July 25, 1940.

The meeting at Sun Valley, September 11-14, bids fair to be most instructive. University of Iowa will have charge of the postgraduate instruction. The program committee has arranged to supplant this course with some excellent lectures from men from our own society.

Dr. Fishbein will have something to say about things of vital concern to all. Dr. Roberts will report on the late American Medical Convention, the largest and most successful medical meeting ever held. There will be a report on the activities of the Physicians Committee for extension of medical practice by one who is active in that work.

Dr. Davis, the Idaho representative on the Committee of Medical Preparedness, will have information about the plans of this group. There will be discussion of many other problems that confront those engaged in medical practice. There will be no lessened interest in the scientific activity but the problems which we are facing and the attempt to solve some of them will be given a prominent place on the program.



RODEO GROUNDS AND STADIUM



SUN VALLEY COLONY. IN FOREGROUND SUN VALLEY LODGE WITH SUMMER ICE-SKATING ARENA OPPOSITE ENTRANCE. TO THE REAR IS CHALLENGER INN AND THE "VILLAGE."

GENERAL INFORMATION

All scientific meetings and both scientific and commercial exhibits will be housed in Sun Valley Lodge, while social activities and accommodations will be scheduled in Challenger Inn. Social events include the annual banquet Thursday evening, at which the guest speaker will be Morris Fishbein, editor of *Journal of American Medical Association*. This will be followed by a dance. There will be a smoker for doctors Friday evening.

The golf committee will arrange a golf tournament for doctors and guests. Facilities at Sun Valley will care for anything else in the sporting line which one may desire.

In addition to scientific exhibits presented by members of the association, there will be exhibits under auspices of American Medical Association, accompanied by Thomas G. Hull, Ph.D., Director of Exhibits for A.M.A. These exhibits will include:

"Use and Abuse of Barbiturates" from the Council on Pharmacy and Chemistry.

"Mechanical Nostrums" from the Bureau of Investigation.

"Tularemia" from the Scientific Exhibit of A.M.A.

"Spotted Fever" from the Scientific Exhibit of A.M.A.
Posture from the Council on Physical Therapy.



OUTDOOR SKATING IN SUMMER

INSTRUCTION COURSES

This year the Program Committee will present something new. The opinion of the committee is that men in our own society should be given an opportunity to present the results of their work and those not appearing on the program may have free informal discussions on subjects in which they are particularly interested. This will be given in the form of instruction courses. Six courses will be given in medicine and surgery.

The courses to be presented will include:

1. Treatment of Fractures of Shaft of Femur, A. M. Newton.
2. Discussion of Commoner Diseases in Eye, Ear Nose and Throat, A. C. Jones.
3. Traumatic and Industrial Surgery, F. C. Gibson.
4. Acute Anterior Poliomyelitis, Harry Alban.
5. The Neuroses, J. O. Cromwell.
6. Endometriosis, Diagnosis and Management, Harold E. Dedman.

These instruction courses will be presented Thursday, September 12 and Saturday, September 14 from 9 to 10:30 a.m. The six courses will be given in Sun Valley Lodge, each in a separate room.



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1. EWEN M. MACEWEN, Dean of Medical School and Professor of Anatomy.
 2. ADOLPH A. SAHS, Assistant Professor of Neurology.
 3. FRED M. SMITH, Professor of Theory and Practice of Medicine.
 4. NATHANIEL G. ALCOCK, Professor of Genitourinary Surgery.
 5. ARTHUR STEINDLER, Professor of Orthopedic Surgery.
-

SCIENTIFIC PROGRAM

Program will consist of addresses by members of faculty of State University of Iowa College of Medicine who are:

- E. M. MacEwen, Dean of Medical School, Professor of Anatomy.
 Adolph A. Sahs, Assistant Professor of Neurology.
 Fred M. Smith, Professor of Theory and Practice of Medicine.
 N. G. Alcock, Professor of Genitourinary Surgery.
 Arthur Steindler, Professor of Orthopedic Surgery.

Wednesday, September 11.

- 9:00-10:30 a.m.—Introduction of Guests. Announcements. Report of National Delegate.
 10:30-11:30 a.m.—Applied Anatomy of Abdomen, E. M. MacEwen.
 11:35-12:35 a.m.—Clinical Significance of Anomalies of Urinary Tract, N. G. Alcock.
 12:35-2:00 p.m.—Round Table Luncheons.
 2:05-3:00 p.m.—Diagnosis of Coronary Artery Disease, F. M. Smith.
 3:05-4:00 p.m.—Neurosyphilis. New Methods of Therapy, A. L. Sahs.

Thursday, September 12.

- 9:00-10:30 a.m.—Instruction Courses.
 10:30-11:30 a.m.—Treatment of Peptic Ulcer, F. M. Smith.

- 11:35-12:35 a.m.—Diagnosis and Treatment of Neurosis, A. L. Sahs.

- 12:35-2:00 p.m.—Round Table Luncheons.
 2:05-3:00 p.m.—Applied Anatomy of the Upper Extremity, E. M. MacEwen.
 3:05-4:00 p.m.—Disabilities of the Shoulder Joint, Arthur Steindler.
 6:30 p.m.—Annual Banquet, Challenger Inn.

Friday, September 13.

- 9:00-10:30 a.m.—Meeting of the House of Delegates.
 10:30-11:30 a.m.—Low Back Pain, Arthur Steindler.
 11:35-12:35 a.m.—The Value of Urologic Findings in Diagnosis of Abdominal Tumors, N. G. Alcock.
 12:35-2:00 p.m.—Round Table Luncheons.
 2:05-3:00 p.m.—Functional Disorders of Gastrointestinal Tract, F. M. Smith.
 3:05-4:00 p.m.—Applied Anatomy of Head and Neck, E. M. MacEwen.
 6:30 p.m.—Smoker for Doctors, Challenger Inn.

Saturday, September 14.

- 9:00-10:30 a.m.—Instruction Courses.
 10:30-11:30 a.m.—Malignancies of the Kidney, N. G. Alcock
 11:35-12:35 a.m.—Cardiac Therapy, F. M. Smith.
 12:35-2:00 p.m.—Round Table Luncheons.
 2:05-3:00 p.m.—Foot Ailments, Arthur Steindler.
 3:05-4:00 p.m.—Diagnosis and Clinical Aspects of Brain Tumor, A. L. Sahs.

EXHIBITS AT SUN VALLEY MEETING

COMMERCIAL EXHIBITORS

Physician's Supply, Salt Lake City, Utah.
 General Electric Corporation, Boise, Idaho.
 Shadel Sanitorium, Seattle, Washington.
 Morning Milk Company, Salt Lake City, Utah.
 Eli Lilly and Co., Indianapolis, Indiana.

SCIENTIFIC EXHIBITORS

1. Alexander Barclay, Jr., Coeur d'Alene.
2. A. B. Pappenhagen, Orofino.
3. R. T. Hopkins, Orofino.
4. W. R. Abbott, Idaho Falls.
5. Blackfoot Hospital, (J. O. Cromwell), Blackfoot.
6. F. F. Horning, Coeur d'Alene.
7. F. C. Gibson, Potlach.
8. Glenn McCaffery, Kellogg.
9. St. Anthony's Hospital, Pocatello.
10. Paul Ellis, Wallace.
11. Harmon Tremaine, Boise.
12. Helen Craig, Boise.
13. M. B. Shaw, Boise.
14. O. P. Hamilton, Boise.
15. H. E. Dedman, Boise.
16. S. M. Poindexter, Boise.
17. W. B. Ross, Nampa.
18. G. O. A. Kellogg, Nampa.
19. A. M. Pompa, Boise.
20. O. F. Swindell, Boise.
21. H. M. Chaloupka, Boise.

WOMAN'S AUXILIARY

Woman's Auxiliary to Idaho State Medical Association will hold its Annual Meeting at Sun Valley, September 11-13.

PROGRAM

Wednesday, September 11.

- 9:00 a.m.—Past Presidents Breakfast.
 10:30 a.m.—Executive Board Meeting.
 1:00 p.m.—Auxiliary Luncheon. Speaker Mrs. E. E. Fisher of Portland, Ex-Treasurer, A. M. A. Auxiliary.

Thursday, September 12.

- 10:30 a.m.—Executive Board Meeting.
 1:30 p.m.—Auxiliary Luncheon. Speaker Dr. E. M. MacEwen, Dean of Medical School, University of Iowa.

Friday, September 13.

Social engagements to be announced during the meeting.

Saturday, September 14.

Social engagements to be announced during the meeting.
 Watch the Auxiliary bulletin board for announcements.

BOOK REVIEWS

ASTHMA AND THE GENERAL PRACTITIONER. By James Adam, M.A., M.D., F.R.F.P.S.G. Surgeon-in-Charge, Asthma Clinic, Stobhill Hospital, Glasgow, etc. 157 pp., \$2. The Williams & Wilkins Co., Baltimore, 1939.

The author reveals his confidence in treating asthma on the first page of his book by attacking the assertion, "once an asthmatic, always an asthmatic." However, as one proceeds, he soon realizes that the material given is not that of an allergist. His numerous theories are enlightening and interesting. Considerable attention is given to the eosinophil count in arriving at a diagnosis of allergic asthma and heredity is not considered an important factor. The chapter on treatment would be of help to the general practitioner in a community where laboratory procedures are not available and an allergic study not thoroughly understood. In summing up the entire volume one is confronted with the

MEDICAL NOTES

HEALTH OFFICERS CALLED TO ARMY. Max B. McQueen, director of north-central Idaho Health Unit has been granted a leave of absence for one year in order that he may enter active duty with the U. S. Army Medical Corps at Fort Douglass near Salt Lake City, Utah. George Bischoff, director of Child and Maternal Health and Crippled Children's Service and L. C. Krottcher, director of the Twin Falls Health Unit have been called to duty at Portland.

THE LECTURE TOUR, sponsored by the State Association, included a dinner meeting with Pocatello Medical Society July 13 at Bannock Hotel; South Side Medical Society at Twin Falls, July 14, from 10 a.m. to 2:30 p.m.; and an evening meeting with Southwestern Medical Society at Boise, July 15. Speakers were C. F. Kemper, Associate Professor of Medicine, Denver University School of Medicine, Colo., whose subject was "Newer Procedures in Management of Ductless Gland Diseases," and K. D. A. Allen of Denver, whose subject was "Carcinoma of Cervix."

CRIPPLED CHILDREN CLINIC. Clinic for crippled children of Kootenai, Benewah and Shoshone counties was held at Coeur d'Alene July 9. Examinations were made by M. B. Shaw of Boise. Dr. Shaw also conducted the clinic for crippled youngsters of Clearwater, Latah and Nez Perce counties, held in Lewiston July 10-11.

LOCATIONS. Lewis B. Hunter has joined the staff of Wallace Hospital. He completed his internship at Sacred Heart Hospital in Spokane last year. Carl R. Limber of Latrobe, Penn., has joined V. G. Logan at American Falls.

WEDDING. David Taylor and Miss Dorothy Holden of Boise were married June 20.

NORTH IDAHO DISTRICT MEDICAL SOCIETY was entertained at State Hospital North, Orofino, June 19. J. I. McKelway, director of the hospital, was host and presented clinical discussion of some of the cases at the hospital. Next regular meeting of the society will be held in September.

question whether it deals with the same type of asthmatic patients seen in America, since, due to our advanced ways of living and the speed at which the average American lives, sensitivities are far more numerous than are present in Europe.
 J. E. STROH.

ELMER AND ROSE PHYSICAL DIAGNOSIS. Revised by Harry Walker, M.D., F.A.C.P. Associate Professor of Medicine, Medical College of Virginia, Richmond, Va. With 205 Illustrations. Eighth Edition. 792 pp., \$8.75. The C. V. Mosby Co., St. Louis, 1940.

With all the modern changes clamoring for recognition, this work holds to the principles of physical diagnosis with an abiding constancy. This background, together with newer developments, makes the work both interesting and constructive. There is a sincerity of purpose which is exceedingly refreshing. This sincerity and timeliness are accompanied by devotion to and appreciation of fundamentals.

The section on diseases of the circulatory system is con-

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, *AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES*, Vol. 23, No. 2, pages 201-206, March, 1939.

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The facilities of the institution are available to physicians who wish to use them for the care of their private patients.

cise, extensive and yet pleasantly expressed. The subject matter is so basic and yet so plainly stated without tiresome elaboration and with close adherence to pathologic background that it is pleasant to read and holds one correctly and intently to the entity under consideration. For the medical student this text is a well of readily available basic facts, upon which he can rely as a foundation for his future activities. For the practitioner of some experience there is a refreshing current review, and a revitalization of some old facts.

C. H. HOFRICHTER.

DIAGNOSIS AND TREATMENT OF HEAD INJURIES. By Sidney W. Gross, M.D., F.A.C.S., Attending Neurosurgeon, Beth Israel Hospital, New York, etc., and William Ehrlich, M.D., Associate Attending Neurosurgeon, Newark Beth Israel Hospital, etc. With 94 Illustrations. 275 pp., \$5.00. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York and London, 1940.

As a clinical guide book to a major twentieth century problem, this is of great value. It was written especially for the use of physicians whose practice is not limited to neurosurgery but who are nevertheless called upon to give either emergency or complete care to patients suffering from all types of head injuries. Beginning with applied anatomy of the head, intracranial physiology, mechanics and pathology of head injuries, methods of examination, classification and the principles guiding treatment are outlined. When and how to perform emergency cerebrocranial surgery resulting from injuries is discussed in principle and detail. The last two chapters are devoted to the complications and sequelae of head injuries.

The object of the authors has been admirably achieved in that a definite outline of diagnosis and treatment has been presented, not neglecting to discuss briefly other viewpoints held on controversial portions of the subject. There is an excellent bibliography and complete index. The illustrations are clear, well placed and helpful, even to photographs of operating room set-up necessary for cranial operations.

S. N. BERENS

INDEX OF TREATMENT. By various writers. Edited by Sir Robert Hutchison, Bt., M.D., LL.D., P.R.C.P., Consulting Physician, London Hospital, etc. Assisted by Reginald Hilton, M.A., M.D., F.R.C.P., Physician to St. Thomas's Hospital, etc. Twelfth Edition, Revised. 996 pp., \$12.00. The Williams & Wilkins Company, Baltimore, 1940.

This volume must appeal to a wide field, since twelve editions have been published since 1907. It is intended to provide the practitioner with a complete guide to treatment in moderate compass and for convenient reference. It deals with the treatment of both medical and surgical conditions. No attempt is made to deal with elaborate surgical operations requiring special skill, but nonoperative treatment is considered with some detail. Including the two editors there are seventy-eight contributors covering medical, surgical and special subjects. The contents are considered alphabetically, beginning with abdominal injuries and ending with yellow fever. Most conditions confronting the general practitioner are covered. Such common conditions as corns and cramps are included. Hypnotism is described at some length. All common fractures are included. To the subject of electrotherapy twenty-two pages are devoted. Due attention is paid to radium therapy. This is a useful volume for ready reference to therapeutic procedures.

AN INTRODUCTION TO BIOCHEMISTRY. By William Robert Fearon, M.A., Sc. D., M.B., F.I.C., Fellow of Trinity College, Dublin. Second Edition. 475 pp., \$3.75. The C. V. Mosby Company, St. Louis, 1940.

"While biochemistry, or chemical physiology as it was originally named in England, cannot be separated from physiology, it is helpful at the stage when biochemistry is usually taught in the professional schools of medicine and dentistry to think of it as an entity, and this should be the graduate approach." Nearly all essential facts of biochemistry are incorporated in this volume. Part I deals with elements and inorganic compounds; Part II considers organic compounds, with chapters among other subjects dealing with amino acids and protein structure, lipides, catalysts, and other biochemical organisms. There are chapters on metabolism dealing with these and other organic compounds. This is by no means an exciting book for reading or study, but it presents definite basic principles a knowledge of which will be of benefit to any practitioner.

ELECTROCARDIOGRAPHY. By Chauncey C. Maher, B.S., M.D., Assistant Professor of Medicine, Northwestern University, etc., and Paul H. Wosika, M.D., M.S., Instructor in Medicine, Northwestern University. Third Edition. 334 pp., \$4.00. The Williams & Wilkins Company, Baltimore, 1940.

It is stated "the purpose of this book is to acquaint the physician and students not fully trained in cardiology with an introduction to the electrocardiographic method." In fourteen chapters principles of the electrocardiograph and its applications in cardiology are explained. They are illustrated by one hundred electrocardiograms, each of which is accompanied by clinical diagnosis and interpretation. Various forms of heart disease are considered to which these principles apply.

One criticism might apply to the excess of electrocardiograms dealing with some conditions which might be confusing to the student. While the text seems brief, connected with some of the electrocardiograms, the principles involved are explained in accompanying chapters. The book is of value to one wishing to review the whole field of electrocardiography which brings it up to date. The principles concerned in this form of practice are illustrated in this volume.

A. DRITINA

TRAPPING THE COMMON COLD. By George Sanford Foster, M.D. 125 pp., \$1.25. Fleming H. Revell Company, New York, 1940.

To acquire a common cold the first essential is the microorganism capable of producing respiratory tract inflammation, and, second, lowered resistance on part of the individual who harbors the microorganism. Methods recommended for prophylaxis are legion. Every writer has his own favorite specifics. This author emphasizes the value of sleep, mode of life, influence of diet with suggested menus, with a variety of specific suggestions. Each day should begin with drinking two glasses of warm water which will leave the stomach within twelve minutes. "After being absorbed by the lymphatics, the water goes over the entire body, bathing and rinsing clean every corner of it. The liver, pancreas, spleen, and all the muscles of the body are thoroughly bathed and cleaned. Finally, the water is passed on to the kidneys by way of the blood stream. Thus the kidneys get a good flushing." Besides, it commonly acts as a laxative. Many suggestions are matters of common knowledge. They are here summarized in convenient form.

NORTHWEST MEDICINE

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EDITORIALS

INAUGURATION OF MEDICAL PREPAREDNESS

Everyone is familiar with the agitation which has existed for some time over the subject of establishing some sort of selective service for a preparedness army. In spite of much controversy and hostility, Congress will soon pass some form of bill establishing selective service. It is stated that, beginning with October, some 400,000 men will be called during a three-month period. Selection of these men for service will be determined largely by medical examinations which will be made by a selected group of physicians.

We all know that John H. O'Shea of Spokane, member of The Committee on Medical Preparedness of the American Medical Association, has supervision of this work in the states of the Pacific Northwest, including Oregon, Washington and Idaho. Our state chairmen are: for Oregon Charles E. Hunt of Eugene, for Washington Raymond L. Zeck of Seattle, for Idaho J. N. Davis of Twin Falls. The functions of these chairmen are as follows:

1. Contact with and coordination of the activities of state, county and district medical societies.
2. Cooperation with county medical societies in securing completion and return of the questionnaire on personal information.
3. To establish mechanisms for securing supplementary information to the questionnaire when necessary.
4. To organize a state committee on medical preparedness to be composed of the president and the secretary of the state medical society, the state chairman for the Committee on Medical Preparedness and ex-officio the member of the Committee on Medical Preparedness of the American Medical Association, within whose corps area the state is located and such other members as this group may select.
5. To assist in the organization of county committees on medical preparedness.
6. To invite local and state health authorities to participate in the work of the program, particularly in the matter of civilian health.
7. To arrange for the dissemination of information on medical preparedness to the groups that are concerned with any particular matter.
8. To assist in the verification of the qualifications of physicians desired for service in the Army, industry, special physical examinations and other special work necessary for national defense.



This journal goes to press the first day of the month. Material for publication should be received by the 25th of the preceding month.



Reprints will be furnished by the printer according to the schedule of prices which accompanies the galley proofs submitted to the author. The order for reprints should accompany the returned galley proofs. The printer holds the type until the first of the following month.

Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

9. To report to the Committee on Medical Preparedness a list of the names of physicians from each county of the state, whose services are believed to be necessary for the maintenance of civilian health and who should, in the opinion of the state committee on medical preparedness, be exempt from military service.

It is stated that physical examinations will be made by physicians who are members of local boards, of which there will be approximately 6,000. Physical examinations will be under control of the states, the War Department acting only in an advisory capacity. There will be approximately one hundred army physical examination boards, each consisting of eleven physicians and one dentist. It is planned to have examinations conducted in such a manner as to eliminate the unfit so far as possible by local examiners rather than having so many rejected for physical defects as were discovered at army camps during World War I. Plans are under consideration for establishment of rules of examining boards, their composition, places of conducting examinations, procedures and many other details which will be announced in due time. The medical men of our states should realize that in the near future large numbers of them will be selected to make necessary medical examinations and they should be ready to do their part when called for this service.

PARATYPHOID C

A CAUSE OF FOOD POISONING

The syndrome of gastroenteritis, occasionally known as food poisoning or intestinal flu, is making its appearance with increasing frequency. Rarely serious, it is often prostrating and is usually puzzling from the standpoint of diagnosis. It is now endemic in most parts of the United States with the incidence in some sections reaching epidemic proportions at times. During the past year or two it has become unusually frequent on the Pacific Coast, where it could well have been classified as epidemic in certain of its outbreaks, especially that which followed the holiday season last year.

Few infectious diseases of such frequent occurrence are so poorly studied from the standpoint of epidemiology. This fault must be placed at the door of the general practitioner. The excuse is made that the patient usually recovers so rapidly that there is no time for epidemiologic study. The speed with which the cycle of the disease is completed, however, should not prevent study and control of this condition. It should, aside from this one difficulty, be readily amenable to control by the usually effective measures applicable to any communicable dis-

ease. Its increasing frequency suggests that it can not much longer be ignored. Its transient and elusive character challenges the alert general practitioner who alone must be responsible for its final elimination.

Many of these cases have been found due to one or another of the organisms known as the salmonella group. This group of gram-negative rods, usually motile, which attack numerous carbohydrates with formation of acids and usually gas, is also known as the paratyphoid group. There has been much confusion in the past as to classification of these organisms and much controversy still exists. In some classifications these organisms are called paratyphoid with groups designated by letter. The salmonella group, therefore, contains the better known Paratyphoid A and B, the less well-known Paratyphoid C, in which are placed the several organisms which cause gastroenteritis in man, and the Para D, E and F, not now considered important in human medicine.¹

Some of the Para C organisms are almost identical with certain types of Para B and may be differentiated only by the most meticulous biochemical and serologic investigation. This fact has clouded some of the studies made on puzzling clinical cases. Agglutination tests with the patient's blood serum may have little value, since agglutinins do not appear early in the disease and when present may exhibit cross agglutination with group B. Occasionally the group C organisms have been recovered from blood culture.

Stool examination remains as the one reliable means of establishing the correct diagnosis. Stool cultures should be obtained in every case, since through this procedure may be had the information which will lead not only to accurate diagnosis but to epidemiologic knowledge which eventually will point the way to control.

Many possible sources of salmonella or paratyphoid infections exist. One of these possible reservoirs of infection now being given wide recognition is the domestic fowl. Edwards et al state "turkeys are often infected with paratyphoid"². The significance of this statement is enhanced by the fact that a marked increase in the number of cases of gastroenteritis due to Paratyphoid C organisms

1. Para A includes two types, Para B 29 types, two only of which are common; Para C 19 types, seven of which have been identified as of animal origin causing disease in man; Para D 19 types; Para E 14 types; Para F 11 types. The most common Para C type is *Salmonella suis*, also known as *Salmonella cholerae suis*. The segregation of types is accomplished by study of cultural, antigenic and serologic characteristics.

2. Edwards, P. R., Bruner, D. W. and Hinshaw, W. R.: New *Salmonella* Type Isolated from Turkeys: *Salmonella* California. *J. Infect. Dis.*, 66:127-129, March-April, 1940.

occurred immediately following the past holiday season.

Every case of gastroenteritis should receive careful study, the organism should be isolated and the source determined. Samples of all foods eaten during the eight hours immediately preceding the attack should be studied and stool specimens should be obtained promptly. Since the organisms rapidly disappear from the stool, there should be no delay in obtaining this material. Only the physician is in a position to direct this study and to call on the services of the epidemiologist and laboratory. Cooperation of all three is urgently needed before the disease can be controlled. The physician, however, who sees the patient while he is ill must initiate the study and do it promptly.

JOURNAL OF ANESTHESIA

During recent months considerable has been published concerning the practice of anesthesia as a medical specialty. Last month's issue of this journal discussed the subject editorially. Medical journalism is now to be supplemented by a new journal, *Anesthesiology*, which is the official publication of The American Society of Anesthetists, Inc. Editorially it states: "Today the anesthetist is expected to qualify for a much more important role in surgical therapy than has been heretofore demanded Aside from knowing the pharmacologic and physiologic action of anesthetic drugs, as well as those used to counteract them, the anesthetist's interests include blood transfusion, intravenous therapy, oxygen therapy, therapeutic nerve blocking and resuscitation."

INJURIOUS EFFECTS OF DESICCATED THYROID

Officials of the Federal Food and Drug Administration are continually extending their efforts to protect the public health and to suppress injurious and ill advised use of drugs. An attempt is being made to ascertain harmful effects that may result from improper use of desiccated thyroid. It is requested that if physicians know of patients who have suffered from injurious effects following the use of proprietary remedies containing desiccated thyroid recommended or sold for obesity, or injurious results from ingestion, either on prescription or indiscriminate use of two grains or less of desiccated thyroid per day, they report such cases to Dr. R. W. Weilerstein, medical officer, Food and Drug Administration, Federal Security Agency, Washington, D. C.

ORIGINAL ARTICLES

DIGITALIS*

ITS USES AND ABUSES

N. C. GILBERT, M.D.

CHICAGO, ILL.

Several years ago I came across a little essay entitled "The Blessing of Inert Drugs." I recall very little of the context, but the title remains in my memory as a thought-provoking text. That many drugs are inert, either of themselves or because of the dosage in which they are used has been, I am sure, a blessing to countless patients. And drugs which are not inert may not infrequently have interfered with nature's attempts to return to a physiologic normal.

Digitalis is not an inert drug. If we were to list our positive blessings, we would place it with opium and quinine and a few other indispensable drugs. It has a very definite physiologic action. But it has no magical effect in curing heart disease. And heart disease of itself is not an indication for its use.

We know that we can count on it for certain physiologic effects, and that it will continue to exert these same effects upon the same patient year after year as long as it is used. The case may progress to fatal end, but this may be because of other conditions and not because the digitalis does not continue to perform its set task. We know that through the effect of digitalis we can restore many people to normal daily life, and that in many others we can prolong or even save life. It is only necessary to stop and consider just what the effects of digitalis are, and whether they will be helpful in any particular case; or whether the action which the drug is sure to produce may be harmful or not. Sometimes, often in cases with normal mechanism, we do not know, and the only way to find out is to try the drug and be ready to stop it, if we are not certain that we are helping.

We know that digitalis, through its central action in stimulating the vagus center, may inhibit the production of stimuli in the pace-maker of the heart, and so slow the heart rate. We know that through the same vagus influence digitalis will inhibit the conduction of stimuli from the pace-maker through the conducting tissues of the heart muscle, so that we may decrease conduction, even to a point where all impulses from the auricle to the ventricle are blocked.

Not all of this effect upon the conducting tissue

*Read before the Twenty-third Annual Graduate Medical Lecture Course, University of Washington, Seattle, Wash., July 17-21, 1939.

is due to the vagus stimulation. A varying part of it, and in some cases the largest part, may be a direct effect of the digitalis upon the conducting tissues which is not effaced by atropine, as is the vagus effect.

We know that digitalis increases the irritability of the heart muscle by a direct action upon the muscle to which it is fixed. After a certain dosage impulses to contract begin to originate in the muscle itself, and we have premature contractions of the ventricle. We first get only occasionally such contractions. But if we increase the dosage, they become more frequent until we may get a premature contraction every second beat, a normal contraction followed by an ectopic contraction, and we have a so-called coupled pulse, the beats coming in pairs. When this coupled pulse occurs we know that about half, often more than half, the fatal dose has been given. It is perfectly safe to use digitalis up to this point but not beyond it. If the dosage is still further increased, increasing irritability still further, we get a constant succession of such beats, completely submerging the normal mechanism. If we persist in our medication past the stage of ventricular paroxysmal tachycardia, we get ventricular fibrillation and death.

Through this same direct action upon the heart muscle, digitalis also increases its tonus, shortening the fibers and making smaller the chambers of the ventricle. It has been supposed that in some cases this enables the ventricle to empty itself more completely. And in addition to this action, many of us think that digitalis increases the contractile power of the heart muscle. Others are not so sure. Visscher has shown that digitalis may increase the efficiency of the heart muscle, enabling it to work with a smaller expenditure of energy.

The effect of digitalis in slowing the heart which is beating rapidly, but normally and regularly, with a normal mechanism, is very rarely of value. In fact, digitalis does not always decrease the pulse rate in man, when there is a normal rhythm, and if there is any effect, it is often very slight. It rarely, if ever, should be given merely to slow the rate of a heart which is beating normally. There is reason to think that in some cases its persistent use in full dosage may occasionally induce auricular fibrillation under certain conditions, as in mitral heart disease. If the heart is beating rapidly, there is usually a good reason of some kind, and we had best devote our efforts to finding out what the reason is. It may be a toxic thyroid or one of many conditions. In some cases the more rapid rate in-

creases the minute volume output, or it may serve to raise the blood pressure.

The one effect of digitalis, in regard to which there is no dispute, is the effect upon the conducting tissue of the heart muscle in cases of auricular fibrillation. By means of this we may decrease the condition of impulses from the auricle to the ventricle, so that the number of impulses which reach the ventricle can be reduced, and the ventricle beat at just the rate which we find the optimal rate for the patient. It is upon this effect that the reputation of digitalis for slowing the heart really rests. It is this effect which saves lives, and prolongs life, and enables many patients who would otherwise be permanently handicapped by auricular fibrillation to lead almost and in some cases perfectly normal lives. It is not the fibrillation of the auricle itself which impairs heart function and decreases the volume of blood which it pumps. It is the rapid rate at which the ventricles are working which does not allow time for their adequate filling.

In auricular fibrillation the auricles are sending a constant succession of stimuli through the conducting tissues to the ventricle, and it is responding to just as many stimuli as it can. Because of this the heart is beating very rapidly and irregularly. The ventricles are only partly filled at each beat, and the volume of blood pumped by the heart is reduced.

If we should ask for a drug made to order to meet these conditions, we would specify that it be one which could block off as many of these impulses from the auricle to the ventricle as we wished, and so cause the heart to beat more slowly and to fill more completely, which would at the same time increase the contractile power of the heart muscle. This is just exactly what digitalis does, and which it will continue to do just as long as we use it. The effect does not wear out. It may also increase heart muscle tonus, which is of value in some cases and of doubtful value in others. The shortened muscle fiber may result in such a decrease in size of the chamber of the left ventricle as to decrease the amount of blood pumped at each beat. By carefully adjusting our dosage we can usually avoid an increase in tonus which might decrease the volume of blood pumped by the heart. The effect of digitalis in increasing irritability has dangerous possibilities, but they are eliminated when reasonable care is used. Abundant warning is given by increase in number of premature ventricular contractions or by coupled pulse.

I shall not enter into any discussion of methods of administration. It makes very little difference,

just so that it is used to the point of getting the desired clinical results. This is what Withering said in substance when he first described its action, over a hundred and fifty years ago. We know that we will not get clinical results until a certain amount of the drug has been given. This amount varies greatly in different people. We know that, after we have given enough to obtain the desired result, we must add a small amount each day to replace that which is being gradually lost in order to maintain the clinical results at the desired level. For this maintenance dosage there is no rule, for it varies very widely in different people. Usually about a grain and a half a day is required, but this may vary. A quarter of a grain a day may be too much for one patient, and another may require two or three grains a day.

The patient may be started upon the average maintenance dosage and the amount raised or lowered as necessary. The one standard is the clinical result in the individual patient. It is not a matter of the heart rate or pulse deficit. One does not know what the optimal pulse rate may be for any one patient. The dosage must be that which produces the best cardiac output, as judged by the improvement in respiration, loss of edema and by the volume of urinary output. The output of urine, among other factors, depends upon the minute volume of blood flow through the kidney, and is a pretty good index of the circulation as a whole.

The volume of blood pumped by the heart may be greatest with a pulse rate within normal limits and a small deficit. Or it may be greater with a more rapid pulse, 110 to 115, and a larger pulse deficit. In one case the slower rate, the increased tonus and contractile power may be an advantage in one set of anatomic conditions. In another case the increased tonus and the smaller ventricle may mean just that much smaller volume in each beat, or the decreased number of beats per minute may mean just that much less blood pumped per minute. Or the increased length of heart muscle fibre may be an advantage in one particular case or a disadvantage in another. I know of no rule by which one can tell in advance just how any one heart will react. It is a matter of clinical observation in each case.

A good example is that of a girl of twenty-five with a history of rheumatic carditis, who had a mitral stenosis and insufficiency, with auricular fibrillation. It was necessary for her to earn a living for herself and her child. For a period of years she had gone through recurring episodes of incapaci-

tating periods of passive congestion, relieved by a stay in the hospital, with rest and medication, only to be incapacitated again after leaving the hospital.

Finally she was taught how to use digitalis herself, in order to maintain her pulse rate at the optimum level, and her progress was followed by means of occasional visits to the out-patient department. As a result she has been able to hold a good position as a cashier for years and to support herself and her boy.

In her case, if the dosage of digitalis was advanced to the point where there was no pulse deficit, and both apical and radial pulse were about seventy-two or seventy-five, she developed passive congestion. If the dosage were kept at a lower level, with an apical pulse rate of about a hundred and ten and a radial pulse rate in the sixties, she maintained a normal circulation. When we increased the dosage, we decreased the amount of blood pumped by the heart. Digitalis may have increased the muscle tonus, and decreased the volume of blood in each beat because of the decreased size of the ventricle. Or it may have decreased the amount of blood pumped in each minute because it decreased the number of beats per minute. Very probably both causes were effective. The patient soon learns to judge the optimum results by physical well-being, quite independently of any rules as to pulse rate.

When once the patient is started upon a proper regime, he should be instructed to return at intervals, rather frequent intervals at first, for observation. Conditions of cardiac need and of dosage will never be quite level. Neither patient nor doctor should be misled by the fact that a dosage may remain constant for a long period of time. For this same reason the patient himself should be instructed in the use of digitalis and the care of his own condition, just as Dr. Joslin has taught us to instruct our diabetic patients. The patient can not have a doctor at his elbow all the time, and must know how to take care of himself from day to day. No matter how carefully he is started out, some changes in dosage will be necessary in order to keep conditions as constant as possible and avoid a recurrence of symptoms from too small or too large a dose. It must be emphasized repeatedly that visits to the physician are still necessary for a check, and always will be.

It should be borne in mind that untoward symptoms, such as nausea and other undesirable effects, depend only on the amount of digitalis used. The nausea is central or reflex and occurs when a certain

dosage is reached, no matter what preparation is used or whether it is given by mouth, parenterally or by rectum.

Auricular fibrillation of itself is not necessarily an indication for digitalis. It is not the fact that the auricles are fibrillating or that the pulse is irregular, which decreases the minute volume of blood. It is because the rapid rate does not allow for sufficient filling of the ventricle. The increased rate past a certain point can not make up for the decreased amount of blood in each beat, and the faster the rate, the more this is so. If the heart rate is not too rapid, circulation may be normal and adequate. If auricular fibrillation is present, and the rate somewhere within normal limits, if there are no subjective symptoms or no objective findings of cardiac insufficiency, I would certainly not favor the use of digitalis. Or, if I did use it, I would watch the patient with special care. For the decrease in rate, or an increase in tonus, or both, may decrease the output.

An example is that of a man of 60 who entered the hospital with extreme cyanosis. The lungs were edematous, the border of the liver was down a hand's breadth and there was passive congestion of the extremities extending up past the knees. He had visited a doctor a few weeks previously who had placed him upon digitalis because of the fibrillation and a slight dyspnea on effort. No instructions in the use of the drug were given, and he had not been asked to return. He was restored to normal immediately upon stopping the medication. He has been up and about and at work since and through two political campaigns, with only infrequent episodes, months apart, relieved by rest and advice as to his activities. With a pulse rate in the eighties and nineties, or even up to a hundred, his circulation is normal. The dyspnea on effort is controlled by avoiding too much effort.

In paroxysmal fibrillation, unless the attack persists and passive congestion results, digitalis is best omitted for a while at least, until we see what rest does. There is always the possibility that digitalis may serve to perpetuate the condition. The big objective in such cases is to determine, if possible, what was responsible for the attack. We must never forget that some cases of coronary thrombosis are ushered in with auricular fibrillation. In some cases the attack follows overexertion and increased intra-auricular pressure; in some there is a toxic thyroid; and in some cases a possible vagus stimulation due to some gastrointestinal upset appears to be responsible. I have seen such cases occur with some indis-

cretion in diet, or when a hiatus hernia was present, and the stomach pushed up into the thoracic cavity. When the attacks recur with frequency, it may be advisable to use a small dose of digitalis with quinidine.

In auricular flutter digitalis is also of value. If it is pushed to a full dosage, in most cases the flutter will change to fibrillation. At this point, the digitalis is discontinued, and in more than half of the cases the rhythm will return to normal. In the smaller fraction that do not return to normal but remain fibrillating, we are much better off than if auricular flutter persisted, for the fibrillation can always be controlled with digitalis. A very few cases do not react so easily and revert to flutter, and quinidine or quinidine with small doses of digitalis may be necessary. Possibility of embolism occurring, when the auricle resumes its normal function, must be considered.

When we come to the consideration of the use of digitalis in cases with normal mechanism, we are in a more difficult position. No positive statement can be made, and its use is a matter of clinical judgment in each case. It has been said at times that digitalis is of value only in auricular fibrillation or flutter. This certainly is not so, and it is of value in some cases of cardiac insufficiency with a normal mechanism, but not in all cases. In some instances it may do harm. It would be simple to say that in a certain case you have certain conditions and that digitalis does this or that, and that use may be made of this or that action. This may be true in some cases of normal mechanism, but in a very great many more cases it is not true, for we do not fully know just what the conditions are.

If any person should have a humble and contrite heart, it is the doctor. We are never so certain that we know all that may be known in any particular case. We must not assume that we know just what the conditions are. And we are not so certain of just what digitalis will do in each case, for there are many variables present which we do not know and can not weigh.

What we do know is that in many cases of heart failure with a normal rhythm digitalis will help, and that it is always worth while to try it and to watch it carefully and critically. In many cases it will be successful, and in many cases it will not. When the patient does not improve, or does not do as well, we should be ready to discontinue its use at once, and to try other methods of attack. And that applies to all therapy always; when a patient does not do well, we should review care-

fully just what we are doing, and what part our method of treatment may have in producing the unfavorable results.

We do, though, have some idea of where the drug may be most useful. This will include cases of either right or left heart failure, but not damaged hearts, where there is no evidence of cardiac insufficiency. It is often of use in cases of heart failure occurring in the final stages of essential hypertension. This is especially true in the large so-called dilated hearts, and less true in the smaller hearts with concentric hypertrophy. When favorable results do occur, they are probably due to an increase in tonus, with more complete emptying, with a shorter muscle fiber and increased efficiency, and probably also to an increased capillary blood flow with the shortened fiber. Any decrease in rate is probably not so much due to any effect of digitalis on the pace-maker as to improved conditions in the heart muscle.

What is true of heart failure in hypertensive disease is also true of cases of heart failure in rheumatic mitral disease, and of heart failure in many other conditions. It may be true in heart failure associated with chronic kidney disease, but only for its effect upon the heart itself. Digitalis is not a diuretic, and only increases the urinary output because it increases the blood flow through the kidney.

There are some cases where we should think at least twice before we use digitalis, even if heart failure is present, and where, if we do use it, we should do so very critically and with special care.

In cases of aortic insufficiency, digitalis is not at all likely to be of value, and it may do harm, especially if the pulse rate is lowered by its use. In aortic insufficiency the hypertrophied muscle of the left ventricle and the increased work make an adequate coronary flow essential. The coronary flow is a direct function of the mean blood pressure. In aortic insufficiency the diastolic pressure is low, which would tend to decrease the coronary flow. Nature usually compensates for this by providing a high systolic pressure. To maintain this and a high level of mean pressure, the pulse rate has increased. We do not want to lower the pulse rate, or decrease the systolic pressure. These factors are compensatory. The effect of digitalis in general is not to increase pressure but to lower it, especially the diastolic pressure. Further, in most cases, if we increase tonus by the use of digitalis, we are decreasing the volume per beat, and are again interfering. There is also the possible effect of digitalis

decreasing the coronary flow by a vasoconstrictive action. There are cases where digitalis may help, but it must be used with especial care. This applies also to cases in which auricular fibrillation is present.

In aortic stenosis we are dealing with an even more difficult problem, for we have an extreme hypertrophy, and often even greater need for an increased coronary circulation. And frequently we are dealing with an associated aortic insufficiency which, because of the aortic stenosis, can not be compensated for by an increased heart rate and increased systolic pressure. Again, we do not want to increase tonus, and so decrease the volume per beat, or slow the heart, or to lower pressure, or do anything which could possibly decrease the coronary flow or the volume output.

Something should be said in regard to the dosage of digitalis in cases with normal rhythm. Smaller dosage than that used in auricular fibrillation will suffice in most cases. In cases with a normal mechanism we are not attempting to influence conductivity, but only to get perhaps a very slight effect upon tonus or possibly on contractility. In many cases relatively small doses are sufficient. It is best to feel our way cautiously.

In the early acute stages of coronary thrombosis digitalis is never of value, and will do a great deal of harm if used in even moderate dosage. Auricular fibrillation may occur at the very onset, but it usually yields to oxygen therapy. In so critical a condition we can not take a chance of doing anything which could possibly interfere with the physiologic compensation which the heart is attempting. There is no reason for desiring any effect upon rate, conduction, tonus or contractility. There is a very great reason for avoiding any effect which might increase irritability. An increased irritability is already present as a serious threat to life. Because of the decreased blood supply to the infarcted area, it is overirritable and a little increase in irritability might mean ventricular fibrillation and death. We must not add to the danger in our efforts to help. We must avoid any possible vagus stimulation, for we have reason to think that this may carry additional hazard to the heart in several ways. And we have reason to think also that digitalis may exert a vasoconstrictive action upon the coronary vessels.

There may be some few cases when auricular fibrillation may persist. If cardiac insufficiency results, digitalis may be necessary, but again it must be used critically and cautiously.

In angina pectoris we are dealing with a coronary

blood flow to the heart muscle which is inadequate for the demands upon the heart muscle at the moment. Over thirty years ago von Neusser warned against the use of digitalis in angina pectoris, because of a possible vasoconstrictive action. That such an action may be present I am satisfied from clinical observation and from experimental work upon dogs. I am also satisfied that there are some cases where digitalis may be of help. And, again, if used at all, it should be used with special caution.

Digitalis is never an inert drug, but one with a definite action. It will always do something.

Samuel Johnson referred to Heberden as "*timidum timidissimus*," a bit of praise for the cautious and cool judgment of the man whom he called the "*ultimus Romanorum*, the last of the learned Physicians," another token of his love and respect for him. There are times when we, too, may be cautious and "*timidum timidissimus*" to the advantage of our patients, and it is equally true that there are many other times when we should use digitalis strongly, fearlessly and persistently, but still with cool judgment.

INTESTINAL OBSTRUCTION

REVIEW OF ITS PRINCIPLES*

DON G. WILLARD, M.D.

TACOMA, WASH.

The treatment of any medical or surgical condition characteristically passes through certain evolutionary stages. First, there is an empiric phase, followed by a period in which rational treatment is attempted on the basis of armchair logic. Still later there comes the rational treatment based on experimental physiology and pathology. The last word has not been written on intestinal obstruction but the researches of the past decade have begun to put an element of sound physiology and scientific knowledge into our understanding of this condition.

In this paper the discussion will be directed in the main to acute mechanical intestinal obstruction, although several of the points to be brought out may be profitably applied to any consideration of common paralytic obstruction seen postoperatively, in pneumonias, colics, etc.

PHYSIOLOGIC PATHOLOGY

In order to approach the treatment of a pathologic condition on a logical basis it is necessary first to find out "why does the patient die" or "why does he get so sick." It is not enough to say simply, "he has intestinal obstruction." One must discover just why intestinal obstruction causes death.

For many years it was thought that the lethal factor was a toxic substance, possibly a proteose which was absorbed from the obstructed bowel. Impetus was given to this idea when it was found that saline intravenously prolonged lives in high intestinal obstruction and it was postulated that it acted in some obscure manner to detoxify this toxin. More recently, however, our attention has been directed to certain mechanical factors as the main causes for morbidity and mortality.¹ These are (1) distention, (2) loss of fluids and electrolytes. This applies to simple mechanical obstruction. Of strangulating obstructions I will make more mention later.

Distention of the gut, present to some degree in all obstructions, is due to the presence of increased amounts of fluid and gas which the peristaltic movements of the intestine are energetically attempting to force past the site of occlusion. The fluid of distention is a physiologic product. A normal person empties about 7000 cc. of salivary, gastric, pancreatic, biliary and enteric juices into the upper bowel every day. This is normally reabsorbed. With obstruction the amount of secretion is increased. With obstruction and distention the absorption is diminished. Consequently, there occurs a gradual increment of fluid as time goes on.

Gas in the intestine arises from three sources. Seventy per cent of the gas in intestinal obstruction, whether mechanical or paralytic, is due to swallowed air. Twenty per cent is due to diffusion of gases from the blood into the gut and ten per cent to intestinal fermentation. Thus it is clear that a large part of intestinal distention could be relieved, if even the one factor of swallowed air could be eliminated.

Knowing by what means the intestines are distended, the question naturally follows as to why the distention is important as regards the welfare of the patient. The answer lies in the effect of increased pressure within the bowel upon the circulation and consequent viability of the bowel wall. In this respect it is necessary to recognize certain definite differences between small and large bowel obstruction. High intraenteric pressures, which jeopardize the circulation of the bowel, are found regularly in obstruction of the colon in man. The ileocecal valve makes a closed loop obstruction of the colon, preventing it from decompressing itself by regurgitation into the small bowel. This intracolonic pressure is exerted to the greatest extent on the walls of the cecum, where gangrene and perforation may occur

*Read before a meeting of Pierce County Medical Society, Tacoma, Wash., Nov. 14, 1939.

1. Wangenstein, O. H.: The Therapeutic Problem in Bowel Obstructions, Charles C. Thomas, Springfield, Ill., 1937.

in unrelieved acute obstructions. In small bowel obstructions sustained pressures are much lower than in the colon, due to the ease with which the upper reaches of the intestine are decompressed by vomiting. The threat to the circulation is less, although after a period of time edema of the mucosa, clubbing of the intestinal villi and a relative venous stasis do occur. Gangrene rarely occurs in simple small bowel obstructions.

Absorption from the bowel may occur through the mesenteric veins, the lymphatics or directly through the bowel wall. Wangenstein has shown experimentally that absorption from the mesenteric veins in intestinal obstruction is decreased. Likewise, by transfusing blood from the mesenteric veins of an obstructed dog into a normal dog, he has shown that there is no mysterious toxin absorbed in this way. Lymphatic absorption from the obstructed bowel is somewhat increased, but neither is there any toxic absorption through these channels. Absorption via the transperitoneal route does not occur while the serosa of the bowel remains intact. When viability of the bowel wall is threatened, due to distention and impaired circulation, however, passage of bacteria and toxic substances through the gangrenous or near-gangrenous areas occurs. Before this time the patient is in relatively good condition. When the bowel wall becomes permeable, the prognosis is grave.

Fluid loss due to vomiting is an important factor in intestinal obstruction, and here also we are forced to recognize the differences between small and large bowel obstruction. In colonic obstructions vomiting may not occur until very late, when distention is marked and the viability of the bowel impaired. Consequently, the loss of fluids and electrolytes is negligible and no particular improvement will follow parenteral administration of saline and glucose. In high obstructions, on the other hand, vomiting comes on early, there is a rapid loss of electrolytes, rise in urea nitrogen and dehydration, and the patient becomes very ill. That the clinical picture is due to fluid and salt loss alone is evident, first, from the improvement that occurs with replacement therapy, and, second, from the fact that loss of the intestinal content by a complete high jejunal or duodenal fistula will produce essentially the same blood chemical and clinical picture as high obstruction.

Strangulating obstructions necessarily present a somewhat different picture from that of simple obstruction. Distention is not marked but viability of the gut is immediately threatened by interference with the blood supply. Blood loss into the infarcted

segment may also be of some moment, as much as 20 per cent of the blood volume being occasionally depleted in this manner.

DIAGNOSIS OF INTESTINAL OBSTRUCTION

The success with which these facts can be applied to treatment of intestinal obstruction will vary with the care and precision applied by the practitioner in making a diagnosis. To the surgeon who makes the routine diagnosis of acute abdomen and operates, the foregoing remarks are valueless. It is not my purpose to outline more than briefly the necessary steps in diagnosis, but the following information is essential to logical treatment.

First: Is the bowel obstructed? In mechanical obstruction intestinal colic is invariably present, diagnosed by the coincident occurrence of colicky pain and borborygmi heard with a stethoscope over the abdomen. There are several different causes of abdominal colic, and borborygmi are likewise heard in numerous conditions, but their simultaneous occurrence constitutes intestinal colic. Vomiting generally occurs and characteristically becomes more copious as time passes, although it may not be a prominent part of colonic obstruction. Distention of the abdomen is usually present and constipation is obstinate.

Second: Where is the obstruction, in the small or large bowel? For this information the flat roentgen plate of the abdomen, integrated with the clinical history and findings, is usually diagnostic. Vomiting generally occurs later in large bowel obstruction and earlier in the small bowel. Fecal vomiting is a sign of small intestinal obstruction.

Third: Is the obstruction complete or incomplete? If gas is found in the colon after an evacuant enema, small bowel obstruction is presumably incomplete. Likewise, if some gas is obtained with enemas in colonic obstruction, it is incomplete.

Fourth: Is the obstruction simple or strangulating? This is usually not difficult to determine. In general, simple acute intestinal obstruction presents intestinal colic without tenderness. In strangulating obstructions there is an infarcted segment of bowel which, due to a weeping of blood from its surface, will produce tenderness and moderate rigidity of the abdomen. There are exceptions to this generality. Certain types of internal strangulated hernia may not give these findings. Also an intussusception will not produce tenderness early, but there are other diagnostic criteria of this condition such as a palpable mass, bloody diarrhea, etc. Inflammatory conditions within the abdomen which occasion an acute mechanical obstruction may also give rise to some difficulty in diagnosis and the question of

recognizing these conditions is not purely of academic interest as far as the patient is concerned. Opening an abdomen with an active peritonitis either diffuse or localized is not to be lightly undertaken.

Fifth: What is the obstructing mechanism? This is not always easy to decide before opening the abdomen and the conclusions at best are inferential except in the case of external hernias.

TREATMENT OF INTESTINAL OBSTRUCTION

Treatment of intestinal obstruction may be considered under four headings. It will be noted in the following discussion that, while the first three therapeutic measures to be mentioned are applicable to the treatment of small bowel obstruction, treatment of the distended, obstructed colon falls almost entirely to the methods of operative surgery.

First: Salt replacement therapy. As indicated earlier, this form of treatment finds its greatest field of value in high intestinal obstructions, where loss of fluid and chlorides by vomiting may be very great. Blood chlorides should be determined on every patient on admission to the hospital and the deficit replaced as rapidly as possible by the use of normal saline, Ringers or hypertonic salt. Bartlett, Bingham and Pedersen² of the University of Michigan have derived a formula based on the blood chloride concentration and weight of the patient for calculating the amount of saline required to restore salt balance. For every 100 mgm. depletion of the blood chlorides, 0.5 gm. of sodium chloride per kilogram of body weight will be required to make up the deficit. Although there are certain objections to its use, it may be more expeditious to use 3 per cent saline intravenously where large amounts are found to be necessary. In lesser degrees of hypochloremia normal saline is probably better. To restore the water balance in a patient showing definite signs of dehydration, an amount of water equivalent to at least 6 per cent of the body weight is required. After salt and water balance has been attained, administration of one liter of normal saline for each liter of abnormal fluid loss will usually suffice to maintain the patient. In colonic obstruction parenteral saline therapy has no specific value.

Second: Blood transfusion is of value in strangulating obstructions to replace blood loss into the infarcted bowel and may change the patient from a poor to a relatively good operative risk. It is not of any particular value in simple obstruction except as there may be anemia and hypoproteinemia, due

to a preceding chronic wasting disease or nutritional disturbance.

Third: Conservative decompression of the distended bowel. Conservative decompression by means of constant nasal suction is a potent adjunct to our treatment of intestinal obstruction but as with any new therapeutic agent a realization of its limitations and contraindications should be appreciated.

If the bad feature of intestinal obstructions, aside from fluid loss, is distention and its effect on the bowel wall, then a method of obviating this would enable us to turn the surgery of acute intestinal occlusion from an emergency to an elective procedure. Wangenstein³ has shown that the entire small bowel may usually be decompressed from above by use of duodenal suction. And what is quite significant in about 40 per cent of one of his series of 190 cases of small intestinal obstruction, the obstructing agent relented and no surgery was necessary. These cases were all simple mechanical obstructions, in which the obstructing agent was presumably an adhesive band present possibly for years, but by some chance obstructing at the moment.

There is unanimity of opinion that the less surgery that is done on a distended edematous bowel the better for the patient. Thus, it is in the late cases of adhesive obstruction where an ill-advised direct attack on the obstructing mechanism may precipitate a fatal peritonitis, that conservative decompression may be life-saving. Release of the adhesion may be done later, if necessary, on a decompressed and relatively normal bowel, in a patient who has meanwhile been generally improved by fluids and transfusion, if necessary. Wangenstein's successful results in dealing with adhesive obstruction in this manner have been duplicated by numerous other clinicians.⁴ There are two absolute contraindications for the use of duodenal suction: (1) strangulating obstructions and (2) acute obstruction of the large bowel with advanced distention. The effect of the ileocecal valve is such that we can not expect to decompress the colon from above.

In mechanical obstructions of the small bowel treated by suction signs of successful decompression should be carefully noted. These are: (1) cessation of gas pains, (2) decrease of distention, (3) visualization of gas in colon on roentgen film indicating that the obstruction has been overcome, (4)

2. Bartlett, R. M., Bingham, D. L. C. and Pedersen, S.: Salt Balance in Surgical Patients. *Surgery*, 4:441-461, Sept.; 614-635, Oct., 1938.

3. Wangenstein, O. H., Rea, C. E., Smith B. A. and Schwyzer, H. C.: Experiences with Employment of Suction in Treatment of Acute Intestinal Obstruction. *Surg., Gynec. & Obst.*, 68:851-868, May, 1939.

4. Klein, S. H.: Peroral Intubation and Drainage of Small Intestine. *Surgery*, 4:827-836, Dec., 1938.

decrease in fluid aspirated through the duodenal tube, indicating that intestinal stasis is no longer prominent and, (5) toleration of temporary discontinuance of suction. It is necessary, while conservative treatment is followed, to have a flat plate of the abdomen taken every twelve to twenty-four hours to be certain that the caliber of the gut is decreasing. In those cases where suction is unsuccessful, the longer it is persisted in the greater the hazard of subsequent surgical procedures.

Wangensteen's objections to constant duodenal suction, aside from certain technical limitations are, first, that drainage of the gut is carried out at a point distant from the obstruction and, second, that the part of the gut proximal to the obstruction cannot be used as a nutritive tube. However, Miller and Abbott^{5,6} have recently devised a tube by which the entire length of the small intestine can be intubated with a fairly high degree of regularity, whether the obstruction is mechanical or paralytic. By passing the tip of the tube down to the site of obstruction the objections of Wangenstein to his own apparatus have been removed. While the Miller-Abbott tube is in place, the patient may take a liquid diet by mouth and there is no loss of the important secretions from the upper intestinal tract. Likewise, a thin mixture of barium may be injected through the tube and the obstructing lesion studied radiologically. A study of the returns from the site of obstruction may also give some information of value concerning its nature.

Success in decompressing the distended abdomen of paralytic ileus or peritonitis will be attained with more regularity by the use of this tube than with the usual duodenal suction.

The surgical treatment will probably continue to be the main method of attack on intestinal obstruction. However, it is only feasible for me to outline certain features without discussing technical details.

1. All strangulating obstructions should be surgically treated as soon as possible, delaying only long enough to restore fluids and blood loss.

2. All obstructions of the colon with large distention should be decompressed by some form of colostomy.

3. In early simple small bowel obstructions a direct operative attack may be made on the lesion, although conservative decompression alone will be attended with success in a large number of cases.

In late cases conservative decompression should be carried out and if unsuccessful an aseptic enterostomy performed. A direct attack on the obstructing mechanism in late cases is not advisable, due to the danger of producing a peritonitis through handling the distended gut, release of adhesions, etc. Stripping of the gut should not be done to empty the distended bowel. The appearance of tenderness in an acute simple mechanical obstruction being treated conservatively should suggest the presence of a strangulating mechanism and operation would be indicated.

SUMMARY

Certain ideas concerning intestinal obstruction have been discussed with the aim of encouraging a plan of treatment which is based on physiologic principles. In the light of our present knowledge the following facts may be reemphasized:

1. The mechanical factors of fluid and electrolyte loss and distention of the bowel are important in simple acute mechanical obstructions and good treatment is designed to overcome these changes.

2. Obstructions of the small and the large bowel must be considered separately because of the differences in pathology and treatment. Certain small bowel obstructions can be adequately treated by conservative decompression and fluid replacement alone. Large bowel obstructions require surgical decompression.

3. Strangulating obstructions require immediate surgery.

4. Good treatment is contingent upon accurate and complete diagnosis and continuous careful observation.

STRESSES NEED FOR REMOVING TUMORS FROM UPPER KIDNEY GLANDS

The advisability of removing tumors from the glands situated at the upper end of each kidney, which, if not diagnosed and left untreated, result sooner or later in death from the attacks of severe circulatory disturbances which they engender, is stressed in *The Journal of the American Medical Association* for August 3 by Alexander Brunschwig, M.D., and Eleanor Humphreys, M.D., Chicago.

The condition caused by these growths is referred to as the adrenal-sympathetic or adrenal-medullary syndrome and may be briefly characterized as follows: In a previously healthy person there suddenly appear attacks of giddiness, weakness, blanching and pallor of the extremities, excessive pulse rate, headache, heart and stomach pain, often nausea and vomiting and partial or complete unconsciousness.

"The attacks last for from several moments to several hours," the authors state. "Once developed they usually increase in frequency, may or may not appear to follow emotional or physical strain, or may be induced by bending the body in a certain direction. Fatal collapse may result from any one attack, especially if the attack appears to be induced by some injury or emotional strain."

It has been demonstrated that the attacks are due to sudden liberation of epinephrine or epinephrine-like substances into the circulation by the tumor.

5. Abbott, W. O. and Johnston, C. G.: Intubation Studies of Human Small Intestine. *Surg., Gynec. & Obst.*, 66:691-697, April, 1938.

6. Abbott, W. O.: Intubation of Human Small Intestine. *Arch. Int. Med.*, 63:453-468, Feb., 1939.

ROLE OF THE GENERAL PRACTITIONER IN THE ANTITUBERCULOSIS CAMPAIGN*

ROBERT W. HEMINGWAY, M. D.

BEND, ORE.

It should interest you that one of the main projects of Oregon State Medical Society for 1940 is "close cooperation between Oregon State Medical Society and all agencies dealing with health." The society is rapidly developing a program of postgraduate study throughout the state and among other things training will be given to physicians in early diagnosis of tuberculosis. This will be a great advantage to patients, doctors and Oregon Tuberculosis Association. It will stimulate the doctor who avails himself of the opportunity to become "tuberculosis conscious" and as a result he will become your staunchest ally, if, indeed, he is not already.

The detection of early tuberculosis is probably the most important step in this fight that we are waging together. Likewise, it is the most difficult from a technical standpoint. I feel that one of our many activities, which will be the most valuable as we go on, is the education of the public to the importance from social, economic and health standpoints of eventual eradication of tuberculosis. In this educational program you are doing a most excellent job.

Backing us up in the conviction that continuous migration of the tubercle bacillus from person to person can be stopped. Reenforcing that effort is the aggressive movement to ferret out the disease and to prevent even infection. Spurring us on is the sporting chance of annihilating the enemy completely.

What stake has the practicing physician in the prospect of eradicating tuberculosis? Why should he rejoice when one or more sector of his field is about to be cut off? How shall he appraise the numerous social developments designed to speed the end?

To the credit of the American doctor, the record shows that he has, from the very beginning of the organized fight against tuberculosis, generously joined hands with the nonmedical crusader, fully agreeing with him that tuberculosis is not merely a disease of certain tissues but a social problem of first magnitude. This fine record should forever silence the criticism that doctors' interests are too narrowly limited to sick organs.

Candor, however, compels us to admit that by and large the doctor in his capacity of private practitioner has not shown extraordinary interest in tuberculosis. This is not surprising; the wonder is

that he has not been even more disinterested. The management of a case of tuberculosis is anything but stimulating or satisfying. Consider the difficulty of making a precise diagnosis, the discouragement of finding the disease already advanced at the patient's first visit, the exasperating indifference of some patients and the hypochondria of others. Consider the uncertainty of treatment results, the household snarls to be untangled, the lure of quick cures competing with the physician's prosaic advice.

Add to that the fact that the family doctor seldom has the satisfaction of seeing a case through from beginning to end. The wealthy patient scurries off to a health resort, the poor one to a free institution. Only a few, those of moderate means who struggle on with a diminishing income, stay with him while he continues to carry their burden. Contrast with the discouraging job of caring for the tuberculous patient the satisfaction derived from an obstetric case: a period of watchful care, a few intensive hours at the time of delivery when skill and daring are called into play, a week or two of convalescence and when it is all over the doctor enjoys the confidence of a happy mother, the worship of a doting father and he adds to his list of potential patients a healthy young specimen whom it will be a pleasure to guide through the shoals of babyhood. Whatever the financial reward of his labors, these fruits at least satisfy his soul.

The doctor's enthusiasm has been further dampened by the very success of the tuberculosis fight. Easy accessibility to sanatoria and diagnostic clinics has all but taken tuberculosis as a medical problem out of his hands. And while the medical profession has been unusually tolerant toward free diagnosis and treatment services for the tuberculous, it is unquestionably true that these privileges, intended for the ultimate benefit of the community and not for its pauperization, are occasionally abused.

The growing practice of group testing with tuberculin and roentgen ray is another social-medicine activity, the significance of which to the general practitioner merits thoughtful discussion. Medical societies which have considered the problem, with a few exceptions, have concluded that *it does not injure private practice*. To make people aware of a threatening situation helps rather than hinders the best interests of the family doctor. Moreover, health departments and tuberculosis associations, which have taken up this kind of work, look toward the day when parents will seek the opportunity to have their children regularly tested with tuberculin and the roentgenogram.

*Read before the Annual Meeting of Oregon Tuberculosis Association, Bend, Ore., April 2, 1940.

Whatever the private practitioner's attitude toward tuberculosis may be, and however he may view the social developments growing out of it, he is still the keystone of the arch. Statistics showing the number of patients cared for in diagnostic clinics and in sanatoria give the impression that practically all tuberculosis work has been withdrawn from the general practitioner. That bland assumption is far from the truth. Of the approximately 650,000 active cases of tuberculosis in the United States today, only about one-seventh are in hospitals and sanatoria and most of these have passed through the hands of the private practitioner. The other six-sevenths, a half million more or less, are for the most part under the care of general practitioners or specialists. All too many are in the hands of quacks and considerable numbers are muddling along without care of any kind.

Merely to do our bounden duty toward this army of a half a million sick, particularly in the face of the stimulating prospect of eradicating tuberculosis, is far too low an aim. Tuberculosis work of the immediate future throws out a challenge for a finer, more complete service than we have been able to render in the past. It is two-fold, to perfect the practices with which we are already familiar and to add services not commonly offered by the family doctor in the past. Only a few of the items of modern tuberculosis practice can be discussed here.

Early Diagnosis. Those who see the steady stream of patients entering a tuberculosis sanatorium deplore the all too-evident delay in making the diagnosis. About five out of each six patients in our sanatoria throughout the country are classified on admission as advanced cases of tuberculosis. And this ratio has not improved to an appreciable extent for the past ten years, during which time an enormous amount of work has been carried on. Yet the time interval between the appearance of the first symptom and diagnosis is the factor which influences prognosis probably more than anything else.

One reason for delay in diagnosis is undoubtedly to be found in the lethargy of the people, coupled with the common human failing of not wishing to face unpleasant facts. Another reason is that the transition from early, "silent" tuberculosis to the moderately advanced stage is often a relatively swift one and only by the barest chance is the case detected in the minimal stage. To what extent can the practicing physician increase his batting average of discovering the disease in its incipency?

Much improvement can be brought about by a

constant alertness. No dragnet method will do; to find early tuberculosis it is necessary *to have it in mind* and to search diligently for it. Unless one is "tuberculosis conscious" slight clues are likely to be overlooked. *More prompt use of the roentgen ray will help.* Prompt consultation with the specialist also needs emphasis. Last, but not least, the routine use of the tuberculin test is a measure every general practitioner may well adopt. A positive reaction in an adult means little to be sure, but a negative reaction, when diagnosis is in doubt, speaks volumes and generally rules out the necessity of following the tedious clue of tuberculosis further.

Contact Follow-Up. The second opportunity which the general practitioner can enlarge to his own benefit, as well as the patient's, is sounder and more thorough contact follow-up work. It is needless to emphasize the extreme importance of contact. Every doctor now knows that a diagnosis of tuberculosis, no matter how precise, is incomplete, if limited to the single patient. Tuberculosis is a household epidemic; the patient before you may be but one focus of it. The responsibility of the family doctor is not discharged until he is sure of the physical status of every member of the family. The slogan "from whom did he get it; to whom has he given it?" should be touched off in the doctor's mind whenever he has a case of tuberculosis before him.

Management of the Patient. The general management of the tuberculous patient in the hands of the general practitioner can be vastly improved. The patient is engaged in a long struggle, the outcome of which depends almost entirely upon what he is willing to do for himself. Tuberculosis is more than a pair of sick lungs; it is a pathologic condition of the whole man physically and emotionally, and affecting even his family. Someone must teach him how to reorganize his whole life.

Management of the patient includes the determination of the form of treatment to be prescribed. Shall the patient before you be referred to a phthisiologist, be sent to the sanatorium or can he be trusted to cure at home? Most pertinent in this modern day is the question as to whether or not the lungs should be collapsed. Pneumothorax is indicated in perhaps 50 per cent of cases of active tuberculosis and sometimes the figure runs as high as 80 per cent. In deciding the question, not only the welfare of the patient but the interests of society must be considered, for one of the chief advantages of lung collapse is that it quickly renders the patient's sputum negative.

Modern management must also include a con-

sideration of the patient's rehabilitation after recovery has been achieved. Training and placement on the right job are essentials in the treatment of tuberculosis. To neglect them is to invite relapse. The family doctor cannot be expected to have a detailed knowledge of working conditions and employment trends, but just as he depends upon others for sputum analysis and roentgen ray service, so he should be able to guide the patient to social resources of the community, competent to readjust him to normal living.

Determining Date of Infection. Our vista of the future of tuberculosis includes a virgin field, begging to be occupied by the up-to-date practitioner. It has to do with anticipation of tuberculosis, not merely its detection when patients come to him on their own initiative. Tuberculin test surveys have led the way and have prepared the people for the acceptance of a service not yet commonly offered by the family advisor.

If parents can be persuaded to have their young children tested with tuberculin periodically, it should be equally possible to establish the practice of having adolescent children roentgenized regularly during their growing-up period. We may find after the experimentation now going on in many communities that the college and high school health services can do this more efficiently and economically by the routine method, but that will not absolve the private practitioner, who sets himself out to be the family health advisor, from his responsibility.

Care of Children. There is also the question of the care of children found to be positive reactors, and those with roentgen shadows of primary lesions. What action is the doctor likely to take, when a parent comes to him bearing a notice from the school physician that her child is a positive reactor? Most doctors welcome the suggestion that the positively-reacting child be studied but would dismiss all such cases (after having satisfied themselves that they are not in contact with an open case) with the dictum that the first infection or so-called childhood type of tuberculosis is always benign and hence needs no treatment. Certain experienced observers, however, caution that neglect of the child with demonstrable lesions is dangerous. Pope states that children with a positive reaction, plus childhood type lesions, are much more likely to develop phthisis than positive reactors without such lesions. The rational advice seems to be that all children with so-called benign lesions be placed under observation until they have safely weathered the stormy period of adolescence.

Team Work. The several fields here briefly sketched will be properly occupied by the doctor who is willing to gear his practice into the present public health and social machinery. Finding new cases, detecting early infection, instructing the patient; these are among his many responsibilities. But he is not a teacher, social worker nor administrator. His office is, however, a clearing house in touch with all the agencies coming in contact with the problems of tuberculosis. Aid of the specialist, help offered by the sanatorium, diagnostic clinic, tuberculosis association and facilities of welfare agencies are his for the asking. Cooperation with health groups is particularly necessary.

In the new era the physician will continue, as he has in the past, to participate in the broad tuberculosis movement. *This movement is not, as some designate it, a "lay" enterprise nor, as others think, a medical activity, but an instrument of democracy.*

The voluntary health association is the voice of the people in matters pertaining to health. This voice looks to the medical profession for guidance in medical matters. Is it not significant that the tuberculosis associations of this country, based on the principle of partnership, have stood the test of time, have spread a network over the entire country and have succeeded? For our own good and for the general welfare we continue to be part and parcel of the movement.

SUMMARY

1. The steady downward trend of tuberculosis, the recent discovery of new measures for dealing with it and the organized efforts now being made support the hope that tuberculosis can be eradicated in the near future.

2. In spite of the many public and social facilities for combating tuberculosis, the general practitioner still plays a major role. While his interest in tuberculosis generally is a fine public-spirited one, tuberculosis as a private medical problem is difficult, not very satisfying and complicated by numerous social implications.

3. There are, however, certain new services and improvements of old ones that the general practitioner is rendering to speed the success of the effort to reduce tuberculosis to a controllable minimum.

4. The general practitioner is gearing his efforts into the complex social machinery now existing; both he and the people will be the gainers. Success of the dream to free mankind of his ancient enemy depends now upon cooperation, persistence and courage.

THE TUBERCULIN TEST

CHANGING CONCEPTS AND USES

K. M. SODERSTROM, M.D.

Tuberculosis Control Officer
State Department of Health
SEATTLE, WASH.

Until recently the concepts and usefulness of the tuberculin test were generally assumed to be fully established. This was true in the thinking of most physicians specializing in tuberculosis as well as the general practitioners. The erroneous premise upon which this thinking was rather loosely anchored was that, once an individual received his first dose of tubercle bacilli, he developed an allergy to the protein fractions of the dead and disintegrating organisms as they died in the course of the infection. It was thought that this allergy remained for most if not all of his life. It was assumed that all adults had at some time or another been infected.

Long ago there had been many experimental studies to refute this thinking concerning allergy, but it had also been shown repeatedly that the adult population was approximately 100 per cent allergic to tuberculin. That all adults are today still allergic to tuberculin is unfortunately thought to be true by many physicians. There is no question but what this was generally true less than a generation ago where surveys were made, but today this is not the case, with the possible exception of areas of unusual urban population densities and areas where race weighting occurs in conjunction with poor economic standards.

Many still hold to the belief that allergy and immunity are practically one and the same thing, and that the loss of allergy would mean a reversion to a status of lost acquired immunity or resistance.¹ This has been rather convincingly refuted by research, notably by Rich and his coworkers,^{2,3} though Willis and Woodruff⁴ recently take some exceptions to the methods used in the former's animal experiments. Perhaps the best refutation to the belief that allergy and immunity are practically synonymous is found by logical reasoning applied in the analysis of the splendid studies made during the last few years in Tennessee on the tuberculin test. Here has been done some original work, under well controlled methods, of a size too great to be

declared statistically insignificant. The findings are too contrary to common belief for the physician to allow himself to overlook them.

The Tennessee studies got under way in 1928 but it was not until 1931, when upon decision to roentgenize the subjects who reacted negatively as well as those who reacted positively to the tuberculin test, that the general teaching regarding the tuberculin reaction was held up for new critical analysis. Too many indisputable evidences of healed tuberculosis were found in negative reactors to allow the standard teachings to go unchallenged.^{5,6} Continuous studies have since been made and the findings have been published at frequent intervals.^{7,8} However, it was not until Lumsden et al⁹ reported rather devastating figures directed toward the fixed concepts of the tuberculin reaction that extensive interest in these Tennessee studies was created. If all of this state's work has done nothing more than to enlighten the profession on the truer values of the tuberculin reaction and to stimulate further research, it has been well worthwhile.

In summary of the Tennessee studies it may be stated it has been found that a person giving a negative tuberculin reaction is not necessarily one who has never been infected by the tubercle bacillus. This brings us to a short discussion of the phenomena of "allergy reversion." As above stated, this reversion has been shown experimentally and can be deduced from available figures based upon clinical observations. If, as is acknowledged, a relatively few years ago humans were approximately 100 per cent positive reactors from the teen age to senility, what is there to explain the fact that those young adults, who were all positive a couple of decades ago, are approximately 50 per cent negative reactors today at an older age? It seems to me there is no argument but that they have lost their allergy to tuberculin or that it has become diminished to the point where it is not detected by the skin test. They have reverted from positive to negative states and there is no evidence that these age group cohorts have lost their expected resistance as acquired from a primary infection. Long¹⁰ would ex-

1. Krause, A. K.: Human Resistance to Tuberculosis at Various Ages of Life. *Am. Rev. Tuberc.* 11:303-354, June, 1925; Dissemination of Tubercle Bacilli in Immune Guinea Pig. Probable Factors Involved in Tuberculo-immunity. *Am. Rev. Tuberc.* 14:211-236, Sept., 1926.

2. Rich, A. R. and McCordock, H. A.: Enquiry Concerning Role of Allergy, Immunity and Other Factors of Importance in Pathogenesis of Human Tuberculosis. *Bull. Johns Hopkins Hosp.* 44:273-422, May, 1929.

3. Rich, A. R. and Brown, H. R.: Dissociation of Allergy from Immunity in Pneumococcus Infection. *Proc. Soc. Exp. Biol. Med.* 27:695, 1929-30.

4. Willis, H. S. and Woodruff, C. E.: Tuberculosis in Allergic and Desensitized Guinea Pigs; Study of Histological Changes. *Am. J. Path.* 14:337-346, May, 1938.

5. Stewart, H. C. et al: Tuberculosis Studies in Tennessee; Infection, Morbidity and Mortality in Families of the Tuberculous. *Am. J. Hyg.* 26:527-556, Nov., 1937.

6. Gass, R. S. et al: Tuberculosis Studies in Tennessee; Roentgenological Evidence of Tuberculous Infection in Relation to Tuberculin Sensitivity in School Children. *Am. Rev. Tuberc.* 38:441-447, Oct., 1938.

7. Dearing, W. P.: Tuberculin and X-ray Survey; Observations in Giles County, Tennessee. *Am. Rev. Tuberc.* 40:640-653, Dec., 1939.

8. Gauld, R. L. and Williams, W. C.: Tuberculosis Studies in Tennessee; Results Obtained from Serial Examinations of Sputum. *Am. Rev. Tuberc.* 41:257-266, Feb., 1940.

9. Lumsden, L. L. et al: Questionable Value of Skin Testing as Means of Establishing Epidemiological Index of Tuberculosis Infection. *Am. J. Pub. Health*, 29:25-34, Jan., 1939.

10. Long, E. R.: Tuberculin Test; Its Value and Limitations. *Am. Rev. Tuberc.* 40:607-620, Dec., 1939.

plain this as a reversion due to lack of repeated allergy-producing doses of tubercle bacilli. That fewer open cases mix with society is true, and can well account for the reduction in repeated infection in the individual which seems to be necessary for the maintenance of allergy.

Rich and McCordock have shown that upon experimental animals the tuberculin positive reactors may in time become negative, or be deliberately desensitized, and yet retain their immunity or resistance to second infection just as well as may an animal with a positive reaction. Studies such as these must be borne in mind when one assumes that the positive have a greater resistance to infection than the negative reactors. Likewise, there has been no evidence in the Tennessee studies that those negative reactors, who were once undoubtedly positive, are any more susceptible to secondary infection than those who retained their allergy. To argue that the rapid decline in our ratio of positive reactors in the population is making for a race of increased susceptibility is not taking account of these discovered facts or, most important of all, our inherited racial immunity which, having been created during the centuries past, is hardly dependent upon created allergy in the individual.

What, then, are the values of the tuberculin test? In light of the present knowledge it seems to me that the value, though changing, has led us into newer and probably more fruitful fields of application. It is now a diagnostic aid more valuable to the physician engaged in clinical practice of medicine than it is usually credited to be. From all recent study one fact seems to emerge unshakable, that the clinical case of tuberculosis, the sick patient, will almost invariably react to a properly applied tuberculin test. Douglas¹¹ reports seven terminal cases in a group of five hundred clinical cases in which the skin test was negative, but only one case other than terminal in which the test was negative. These findings are acceptable to antagonists of the skin test. This means that a true tuberculin negative rarely could have tuberculosis. This statement is by no means new, but is today of increasing importance, when one considers that the day of almost universal positive reactors among adult population groups is passing into one where the positive adult reactor is in the minority.

Douglas found but 44.5 per cent of adults over age thirty (in several thousand tests) to be positive. Younger age groups were decidedly less frequently positive. It is to be noted that these are

subjects presenting themselves to doctors as general clinic patients, a cross-section of the general practitioners' clientele. If one considers the less densely populated western cities in the light of these figures, it is not difficult to believe, in this instance, that the ratio of positives to negatives will be even less. Therefore, the meaning of a positive reaction found in an adult with or without pulmonary symptoms is becoming more and more indicative of pathology, and there may be the day when this is just as true as the relation which a positive Wassermann reaction bears to the clinical syphilitic. And it is to be remembered that the individual practicing physician sees the potential tuberculosis case first.

In the light of the changing values of the tuberculin test the older uses of the procedure in mass surveys and case finding attempts must be newly appraised. Is there the justification today for mass group testing that there was several years ago? Probably not and for numerous reasons. There is no published material in the literature showing that this is a financial expenditure giving a fair return for money invested, when the purchased item is to be a discovered case. Indeed, it has been amply shown that this as a technic used for mass surveys of children is the most expensive of all case finding procedures.^{12,13} Why is this so? Because rarely does a positively reacting child have manifest tuberculosis, and, second, *all* adult contacts of the positive must be completely examined, for it is here, and only here, that the open case who gave the child its positive reaction will be found, if he is found at all by such methods.

But to go further than this, it has been found, under well controlled studies, that 30 per cent of open cases of tuberculosis have no children as contacts who might be found in mass surveys among school children.¹⁴ There are always those adults who refuse to have their children tested to add to the above stated 30 per cent. However, assuming that such is not the case and that every adult with tuberculosis had a representative child contact who might be tested with a survey group, would this child reflect the adult's presence in the home? Certainly not nearly as frequently as popularly supposed.

The recent publication of the carefully controlled work in Baltimore by Brailey¹⁵ brings this fact out

11. Douglas, B. H.: X-ray Findings in Tuberculin Reactors and Nonreactors. *Am. Rev. Tuberc.* 40:621-633, Dec., 1939.

12. Plunkett, R. E.: Case Finding; Evolution of Various Techniques. *Am. Rev. Tuberc.* 39:250-265, Feb., 1939.

13. Downes, J.: Study of Effectiveness of Certain Administrative Procedures in Tuberculosis Control. *Milbank Mem. Fund Quart.* Oct., 1936.

14. Downes, J.: Tuberculosis Control in Mulberry District of New York City. *Milbank Mem. Fund Quart.*, Oct., 1937.

15. Brailey, M.: Study of Tuberculous Infection and Mortality in Children of Tuberculous Households. *Sect. A, 31:1-43, Am. J. Hyg.*, Jan., 1940.

clearly. In this work the writer made personal observations and studies of the cases and is certain that the interpreted findings are accurate beyond a question of doubt. In this study it was found that only 21.6 per cent of the white children under ten, exposed to clinical but apparently sputum negative family adult cases of tuberculosis, reacted to tuberculin after adequate exposure periods, and that the same age group gave but 64.6 per cent, when adequately exposed to known sputum positive family adult cases. There were also similar findings for older children. Only after the contact in the latter exceeded twelve months did the proportion of positive reactors rise to 85 per cent. The writer has studied many of these children and families and knows that they are all of an economic stratum that is as low as local relief permits. It should be mentioned at this point that Stewart et al found but 71 per cent of children exposed to open cases in the same family reacting to 1.0 mg. of Old Tuberculin.

Referring to the 15 per cent who escape infection, though exposed for over one year to open cases with positive sputa, Brailey observes that "if this can occur among families of the poorer class, it is suggested that in the more hygienic surroundings of the better economic classes, contact infection is by no means inevitable." This is truly a conservative statement. If we assume that 30 per cent of the adult tuberculous cases do not have children in the same household and, of the 70 per cent that do, not over 85 per cent of these children will react to tuberculin, there will surely be a sizeable proportion of adult cases in the community still not brought into view. This assumes, of course, that all children in the school system of the community are tested.

There is still another weakness in the tuberculin test in children when used as a case finding method. This is the all too frequent failure to repeat the test upon negatives with a stronger solution of tuberculin. There was shown a definite need for the stronger second test in the Tennessee studies, where in one group only 84 reacted to .01 mg., but an additional 368, in the same group, reacted to 1.0 mg. (The tuberculin was prepared by the same laboratory, checked by the standards of the Phipps Institute, and administered and read by the same clinician.) No negative reactor is truly a proved negative until a second stronger dose is given. This is best stated in the words of Myers¹⁶ when he lists . . . "factors necessary for the successful administra-

tion of the tuberculin test" . . . "For the individual who has not reacted to .01 mg. or 0.1 mg. as the first dose, a second dose of 1.0 mg. should be administered in from 48 to 72 hours. When Purified Protein Derivative is used, one should always employ the usual second dose for those who do not react to the first. The administration of a sufficient dosage of tuberculin is important, as a 10 to 20 per cent error may result from using only the small dose. For persons beyond middle life, larger final doses may be necessary."

CONCLUSIONS

No attempt has been made in this paper to minimize the value of the tuberculin test, but instead to show where its uses can best be applied to secure the most reward for the effort. The merits of testing the school child, with the aim of using this to impress him with tuberculosis education, is not questioned here. It is pointed out, however, that the most fruitful location for its application as a case finding procedure is in the physician's office in his routine practice.

It has been pointed out that this test is one of very fine accuracy when done upon individuals who may be tuberculous, but it is not dependable for use upon well, healthy children who are assumed to reflect back into the home any adult case that may be there. This is no fault of the test; it is the children who refuse to act or react as theoretically prescribed. If the clinician will remember that tuberculin should be used upon the individual patient in question, not upon the patient's relative, and that all of his negative reactors should be rechecked with a stronger solution of potent tuberculin, using the proper intradermal technic, he will find an inexpensive procedure offering a substantial reward for the effort expended.

Lastly, I wish to place no obstacle in the path of such agencies carrying on programs of tuberculin testing of children, but rather desire to emphasize that such programs require proper dosage of the testing solution to be used, and that positive reactors be completely followed up in all details. It is further suggested that official health agencies, with somewhat limited funds, can best give their attention to proper follow-up of known cases, and of tuberculosis contacts through the practicing physicians' cooperation, a program of case finding that is both economical and effective. Proper relations between the physician, using tuberculin in his office, and the health officer will speed the day when eradication of tuberculosis may be a reality rather than a mere probability.

16. Myers, J. A.: Detection of Tuberculous Infection. J.A.M.A., 112, 1904-1910, May 13, 1939.

TREATMENT WITH VITAMINS*

DWIGHT L. WILBUR, M. D.

SAN FRANCISCO, CALIF.

WHAT VITAMINS ARE

Most of us are likely to think of vitamins as a group of substances related, perhaps physiologically if not chemically, and as substances having very striking and at times miraculous effects. Most of all we are apt to have the erroneous impression that they are drugs, for the vitamins are marketed chiefly by drug stores, manufactured largely by pharmaceutical houses and dispersed in the form of pills, powders, syrups and capsules or in solution for parenteral injection. While these misconceptions may be clearly understood, nevertheless they are misconceptions, for in essence vitamins are foods and not drugs and, as has been well said, the grocery store is more important than the drug store in the prevention and treatment of vitamin deficiency states.

Vitamins have been called external or exogenous hormones. While they are entirely unrelated in chemical structure and differ widely in physiologic behavior, nevertheless the vitamins may be classed as catalysts. In essence they are the sparks which motivate much of normal physiologic activity. This reference to "sparks" suggests very clearly why vitamins are so essential, why they are needed in small quantities only and why they do not serve as sources of energy or as material for growth and repair.

VITAMIN DEFICIENCY DISEASES

Definition. A vitamin deficiency is a condition which results when man or animal fails to obtain or to utilize a physiologically indispensable amount of one or more of the vitamins. For purposes of convenience vitamin deficiency diseases arbitrarily may be divided into those which are of marked, of moderate and of mild degree. In the first group we clearly recognize such conditions as xerophthalmia, beriberi, pellagra, scurvy and rickets, while in the second group may be placed a large number of conditions including night blindness, peripheral neuritis or alcoholism and pregnancy, mild scurvy and pellagra, glossitis and various types of macrocytic anemia. It is these conditions which now will be considered. Deficiency states of mild degree will be discussed subsequently.

Principles in Treatment. Vitamin deficiency diseases are an unusual group of diseases in the sense that they are entirely preventable and that, with

the exception of a few extreme instances, they are completely amenable to cure.

The important principles in the treatment of vitamin deficiency diseases are as follows:

1. The use of an adequate, well balanced diet high in vitamins, proteins, minerals and calories.
2. The use of supplements to the diet in the form of
 - a. Concentrated and rich food sources of the vitamins which include such substances as cod liver oil, citrus fruit juices, yeast, wheat germ and so forth;
 - b. Concentrates of vitamins, including such substances as liver extract, fish liver oils and a large variety of proprietary preparations of vitamin concentrates in the form of pills, tablets, capsules, powders, syrups and so forth;

TABLE 1
BASIC OR FOUNDATION DIET*
(Adult)

DAILY QUANTITIES	
Milk	1 pint
Egg	1
Vegetables	3 large servings besides potatoes (one a green leafy vegetable)
Fruit	2 servings - one raw
Meat, fish or fowl	1 serving (about 4 oz.)
Butter	1 tablespoonful
Whole grain cereal	1 average serving
and	
Whole grain bread	3 slices.

*This diet serves as a basis for a normal diet. It contains the known vitamins in amounts sufficient to meet the optimal requirements. To it may be added whatever foods are desired.

TABLE 2
THERAPEUTIC DIET, HIGH VITAMIN CONTENT*

	Weight - gms.	Average Servings
Milk	914	1 quart
Eggs	200	4
Lean meat (i. e. beef)	120	large serving
Butter	60	6 squares
Potatoes	150	large serving
Vegetables		
5 or 10% (cooked)	100	average serving
5% (raw)	100	large serving
Fruit, stewed or		
canned	100	average serving
raw	100	average serving
Bread		
whole wheat	150	6 slices
Cereal		
cooked, weight		
Farina, dark	150	large serving
Dessert		
ice cream	200	2 average servings

*This diet has an approximate vitamin content of 20,000 USP units of vitamin A, 580 I.U. (1.93 mg.) of vitamin B₁, 97 mg. of vitamin C and 1310 Sherman-Bourquin units of vitamin G (riboflavin). The amounts vary depending on vegetable, fruit, cereal selected, on the season of the year and on the method of preparing the food. Addition of 30 grams (2 tablespoons) of dried brewers yeast would increase vitamin B₁ content to approximately 1330 I.U. (4.4 mg.) and riboflavin content to approximately 1760 Sherman-Bourquin units (estimated requirement is 600 Sherman-Bourquin units).

*To this diet may be added other foods or larger amounts of the foods which are high in vitamin content.

*Modified after Spies, T.D., Chinn, A.B., McLester, J.B., Severe Endemic Pellagra, J.A.M.A. 108:853-857 (Nov. 13) 1937.

*Read before the Summer School of Vancouver Medical Association, Vancouver, B. C., June 6, 1939.

c. Synthetic and crystalline preparations of vitamins, including thiamin chloride, carotene, nicotinic acid, riboflavin, ascorbic acid and ergosterol.

3. The use of massive doses of vitamins in the early period of treatment.

Diet. The keystone in the prevention and treatment of vitamin deficiency diseases is a well balanced diet adequate in its content of all essential foodstuffs including vitamins (tables 1 and 2). It is particularly important to emphasize this fact now that concentrates and natural and synthetic crystalline preparations of some of the vitamins are available for therapeutic use. So much emphasis has been placed on the therapeutic importance of these substances largely by specialists in advertising, that there has been neglect of proper emphasis of the importance of an adequate diet in the treatment of deficiency diseases.

Why is it so important that attention be paid to an adequate or well balanced diet in the treatment of these conditions? The answers are relatively simple. In the first place, vitamins normally are obtained by man from foods and they are foods and not drugs. Again, it has been clearly demonstrated that vitamin deficiency states usually are multiple in the sense that they are due to deficiency of more than one of the vitamins. To limit the treatment of a patient with a deficiency disease to the use of one or even more crystalline or other preparations of one or more of the vitamins without attention to the diet may result in marked symptomatic improvement, but it may not cure the patient because of failure to supply him with other known or unknown factors which he also lacks. Finally, it is obvious that there are essential factors, substances or components of foods in the natural state which have not only not been synthesized or prepared in concentrated form but of which at present we are only vaguely aware. Our therapeutic efforts will be incomplete, if we limit them to administration of preparations of known vitamins and omit consideration of unrecognized essential substances included in an adequate diet.

Supplements to the Diet. In almost all cases of vitamin deficiency diseases it is advisable to supplement the diet with vitamins in other forms. The principal advantage of supplementing the diet lies in the rapidity with which the desirable therapeutic results may be obtained. In some cases of stomatitis and other gastrointestinal conditions it may be impossible to induce the patient to partake of an adequate diet early in the course of treatment, under which circumstances a supplement to the diet is necessary. The diet may be supplemented

with rich food sources and concentrates of the vitamins and with synthetic and crystalline preparations of them.

Food Sources. In general, concentrated and rich food sources of the vitamins are the most useful forms in which the diet may be supplemented. These supplements include such substances as cod liver oil, dried brewers yeast, wheat germ, butter, cream, orange and other citrus fruit juices (tables 3 and 4). Advantages in the use of these substances are the same as are those for the use of an adequate well-balanced diet.

TABLE 3
FOODS RICH IN VITAMINS

Vitamin A (and carotene)	Butter, cream, egg yolk, carrots, green leafy and yellow vegetables.
Vitamin B (all components)	Whole grain cereals and bread, vegetables, potatoes, nuts, eggs, muscle and organ meats, milk.
Vitamin C.	Oranges, lemons, grapefruit and their juices, tomatoes and tomato juice, raw cabbage, fresh strawberries, fresh fruits and vegetables.
Vitamin D.	No adequate source. Egg yolk is richest food source.

Concentrates. Concentrates of vitamins include such materials as liver extract, fish liver oils and a large variety of proprietary preparations of vitamin concentrates in the form of tablets, powders, capsules, pills and syrups. While such concentrates have the advantage of permitting administration of large amounts of vitamins in a relatively small volume, they have the disadvantage of having been prepared, preserved or otherwise subjected to processes which may impair their vitamin content. Nevertheless, they serve a very useful purpose, if properly used as a supplement to a suitable diet.

Synthetic and Natural Crystalline Preparations. In recent years crystalline preparations of some of the vitamins have become available for therapeutic use. At present these include carotene (precursor of vitamin A), thiamin chloride, riboflavin, nicotinic acid, ascorbic acid and ergosterol. Vitamins B₆ and K probably soon will be available in crystalline form.

These preparations have the advantage of permitting administration of large amounts of one or more of the vitamins orally or parenterally with frequently a correspondingly rapid relief of symptoms. However, for the reasons already stated in the treatment of vitamin deficiency diseases, crystalline preparations of the vitamins should always be considered as a supplement to a well balanced diet and it is well to use supplements of rich food sources and concentrates of the vitamins with them. It is illogical to treat a vitamin deficiency

TABLE 4
 PROPRIETARY PREPARATIONS OF VITAMINS

Vitamin	For Oral Administration	Dosage (Daily)		For Parenteral Administration	(Dosage Daily)
		Protective	Curative		
A	*Halibut Liver Oil ¹	*6-10 drops (2.5-3.5 minims) ¹	*20 drops (7 minims) ³	Carotene in oil	
		*15 drops (5.25 minims) ²			
	*Cod Liver Oil ⁵	8 cc			
	*Percomorph Liver Oil ⁶	10 drops ¹	20 drops		
	*Cod Liver Oil concentrates *Cod Liver Oil with Visoterol *Carotene in Oil				
B ₁ Thiamin	*Tablets of 0.5, 1.0, 3.3, 6.6 mg. each	1-2 mg.	10-60 mg.	*Thiamin chloride solution	10-60 mg.
	Elixir 1-6.6 mg. for each ounce				
Nicotinic Acid	*Tablets of 25, 50 and 100 mg. each	Unknown	50-1000 mg. (usual 10 doses 50 mg. each)	*Nicotinic acid or a salt of nico- tin acid	10-50 mg.
Riboflavin B ₂	*Tablets or capsules of 1 mg. each Not available	Unknown	2-5 mg.	*Riboflavin	2-5 mg.
Vitamin B Complex	*Dried Brewers Yeast		10-100 gm.	*Liver Extract (dilute)	10-50 cc.
	Wheat germ		10-100 gm.		
	Various tablets, powders, syrups and liquid forms				
C	*Tablets of 10, 25, 50 and 100 mg.	10 mg.	25-1000 mg.	*Vitamin C	25-1000 mg.
D	*Cod Liver Oil ⁵	8 cc.			
	*Viosterol in Oil ⁷	5 drops ¹ (0.1 cc.)	15-20 drops (0.3-0.4 cc.)		
		15 drops ² (0.3 cc.)			
	*Cod Liver Oil with				
	Viosterol				
	*Vitamin D milk† *Halibut Liver Oil with Viosterol *Burbot Liver Oil *Percomorph Liver Oil ⁶				
E	Wheat Germ Oil	20 drops (0.4 cc.)			
K	Dried Alfalfa	2,000-4,000‡ Dann units	5000-15000‡ Dann units		
	Fish Meal				

*Accepted for inclusion in New and Non-Official Remedies 1939 (NNR) American Medical Association, Chicago

1. For normal infants.

2. For premature and rapidly growing infants.

3. For cases of severe deficiency.

4. Halibut Liver Oil (NNR 1939) is biologically assayed to have a potency of not less than 50,000 USP units of vitamin A per gram (about 3000 units per minim).

5. Cod Liver Oil (NNR 1939) contains in each gram at least 600 USP units of vitamin A and at least 85 USP units of vitamin D (1 cc. Cod Liver Oil equals approximately 1 gram).

6. Percomorph Liver Oil (NNR 1939) is biologically assayed to have a potency of not less than 60,000 USP units of vitamin A and not less than 8,500 USP units of vitamin D per gram (approximately 12,500 USP units of vitamin A and 1800 USP units of vitamin D for a ten drop dose).

7. Viosterol in Oil (NNR 1939) is standardized to contain the equivalent of at least 10,000 USP units of vitamin D in each gram (approximately 1000 USP units per each 0.1 cc.).

† Irradiated milk is standardized to contain 135 USP units of vitamin D per quart. Fortified vitamin D milk (by addition of vitamin D concentrates) to contain not over 400 USP units per quart.

‡ With prophylactic treatment give 1-2 gm. and, with curative treatment give 2-4 gm. animal bile salts.

disease with thiamin chloride or ascorbic acid alone in the same way as it would be illogical to treat a condition of protein deficiency with tryptophan, histidine or some other essential amino acid rather than with large amounts of naturally occurring complete proteins.

Massive Doses of Vitamins. The principle that massive doses of the vitamins are of great value in the treatment of vitamin deficiency diseases has been amply demonstrated in the treatment of peripheral neuritis and cardiovascular disease, due to deficiency of vitamin B₁, in beriberi, pellagra, scurvy, rickets and probably in night blindness. The rapid relief of symptoms and consequent shortening of the disease and duration of treatment are accomplished by this method of therapy. It is of importance to emphasize the fact that treatment with massive doses of vitamins is necessary only when the deficiency is a definite and easily recognized one.

TREATMENT OF SPECIFIC DEFICIENCIES

Vitamin A. The treatment of vitamin A deficiency in those patients who have a normal gastrointestinal tract is by the use of a diet containing liberal quantities of milk, butter, cream and green and yellow vegetables. The principal available supplements are in the form of fish liver oils such as those of the halibut, cod and burbot and of blended fish liver oils. Carotene, the precursor of vitamin A, also is available as an active therapeutic agent but larger doses of it are required than of the vitamin to produce comparable results.

Massive doses which may be used in the treatment of vitamin A deficiency consist of 25,000 to 75,000 USP units of the vitamin daily, continued over approximately two weeks. Following this period of time the dose may be reduced to 20,000 to 25,000 USP units daily until evidence of deficiency has disappeared. As yet a preparation of vitamin A which may satisfactorily be administered parenterally is not available. However, there is available one preparation of carotene which may be given parenterally.

Vitamin B Complex. In the treatment of deficiency of the vitamin B complex very close attention should be paid to the above mentioned principles in treatment of vitamin deficiency, since there is uncertainty as to the nature of all of the components of the vitamin B complex. Undoubtedly some of them have not been isolated in crystalline form and some may be destroyed in the preparation of concentrates of the complex. While certain de-

ficiency diseases, such as peripheral neuritis, are due in large part to deficiency of thiamin or vitamin B₁ and pellagra chiefly to deficiency of nicotinic acid, nevertheless in most cases there is a multiple deficiency, namely, deficiency of more than one of the components of the complex. It is, therefore, exceedingly important to supply all of the components to patients, if complete recovery is anticipated.

TREATMENT OF PERIPHERAL NEURITIS

The treatment of peripheral neuritis of pregnancy, chronic alcoholism and other deficiency states should include (1) an adequate therapeutic diet (table 3), (2) supplements to the diet of dried brewers yeast or wheat germ in doses of 30 to 100 gm. daily (or autolyzed brewers yeast 20 to 30 grams daily), (3) supplements of thiamin chloride administered parenterally in doses of 10 to 20 mg. two or three times daily for several days to two weeks and then replaced by oral administration in doses of 10 to 20 mg., (4) supplements of nicotinic acid in doses of 25 to 50 mg. at hourly intervals for ten doses daily for patients with glossitis, stomatitis or diarrhea, (5) supplements of vitamin A and C and of iron and protein, if needed, and (6) symptomatic treatment in the form of bed rest, opiates, analgesics and sedatives when needed, as well as adequate supports and orthopedic care for paralyzed extremities. As the patient shows signs of marked improvement, the program may gradually be relaxed, omitting the larger doses of vitamin supplements and substituting smaller doses for them.

CARDIOVASCULAR MANIFESTATIONS OF BERIBERI

Such conditions if severe demand emergency treatment. This should include (1) absolute bed rest, (2) liquid or soft foods in small amounts but rich in vitamin B such as ground liver, lean meat, whole cereal gruels, eggs, pureed peas, beans and other vegetables, and milk, the total amount depending on the general condition of the patient, (3) supplements of thiamin chloride, dried brewers yeast or wheat germ and nicotinic acid as noted above for patients with peripheral neuritis. It is wise to administer 10 to 20 mg. of thiamin chloride intravenously for three or four doses in the first twenty-four hours.

(To be Continued)



RECONSTRUCTION OF LOWER LIP*

ARTHUR F. CUNNINGHAM, M.D.

SPOKANE, WASH.

The plight of the person who has facial defect is indeed serious. He is an object of pity and morbid curiosity in the eyes of his acquaintances. Therefore, it is no wonder that a defect can have an influence marked enough to cause personality changes, most serious of which is an inferiority complex in early life.

Among the facial defects requiring surgical correction is the loss of a lower lip. The problem of reconstructing the lower lip is an interesting and difficult one as evidenced by the variety of entirely different types of operations devised for this purpose. The end-result of any procedure for correction of this defect must be measured by the reestablishment of good function as well as the correction of a cosmetic defect.

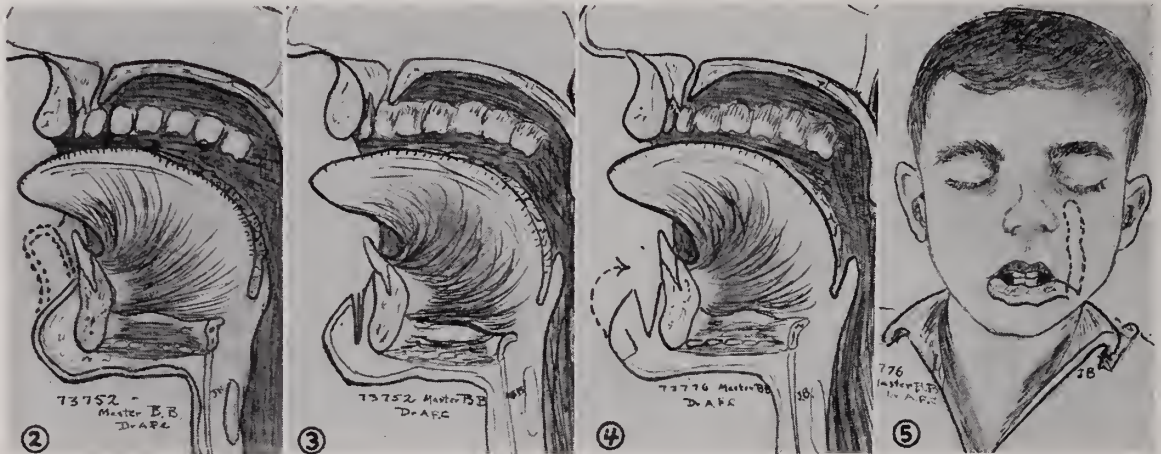


Fig. 2. Drawing to indicate a sagittal view of lower lip. Dotted lines represent outline of a normal lip.

Fig. 3. Drawing to indicate incision before insertion of skin-covered dental stent.

Fig. 4. Drawing to show incision after inlay graft has

The anatomy of structures involved must be kept in mind. About the mouth the orbicularis oris is the largest and probably the most important muscle. It encircles the mouth and imparts its sphincter action. The levator labii superioris, levator labii inferioris, levator anguli oris, zygomaticus major and minor and others about the mouth all act in opposition to the orbicularis oris. The motor nerve supply to these muscles is derived from the supramaxillary and buccal branches of the facial nerve and the blood supply is from the superior and inferior labial branches of the external maxillary artery.

It must be borne in mind that in reconstructing the wall of a body cavity it is as essential to line

the new wall on the inside as it is to cover the outside. For this purpose it is most practical to use skin for lining the reconstructed lip, as in time the skin will take on characteristics resembling mucous membrane.

CASE REPORT

A nine year old boy came to me because of partial loss of his lower lip. When three years old he had suffered an abrasion of his lower lip. This had become secondarily infected, producing marked cellulitis, involving not only the lower lip, but also the entire lower part of the face and neck. The lad was extremely ill for weeks but finally started to recover.

As a result of this infection part of his lower lip sloughed. Eventually healing took place which when complete left his lip as it appears in figure 1. Since the lad was now well into a personality complex because of his disfigurement, which in turn was emphasized by the cruelty of his playmates, I felt that reconstruction of his lower lip should not be delayed.

Procedure. From figure 2 it can be seen how much of the lip was necessary to be replaced. All operations were done under ether anesthesia with preliminary sedation of paraldehyde.

"taken" and also incision into outer portion of the lip. The arrow indicates direction in which this flap is turned.

Fig. 5. Drawing to show pedicle graft turned down from cheek to cover surface made by horizontal incision into the lip.

Stage 1. A vertical incision was made into the scar tissue that had obliterated the labiogingival sulcus. This incision freed the soft tissues from the mandible as far laterally as the angles of the mouth (fig 3). A mold of dental compound was made to snugly fit into this incision and yet not be bulky enough to prevent suturing the edge of this new formed flap back to the shelf of mucous membrane left attached to the mandible. Then with a pattern of foil to give the shape and area of the raw surface to be covered, a full-thickness skin graft was taken from the inner surface of the arm and sutured over the dental compound mold with the raw surface out. Twelve days later with the sutures out, the dental compound stent was removed, revealing that there was now a sulcus lined by skin. This sulcus was approximately one-half inch deep and permitted much greater mobility of the base of what was to become the new lip.

Stage 2. Three weeks later a horizontal incision was made into the chin. This permitted the margin to be turned upward and inward, making a lip that was lined on the inside by skin and leaving a raw surface on the outer side (fig. 4). A pedicle flap was then turned down from the left

*Read before a Meeting of North Idaho District Medical Society, Lewiston, Ida., Nov. 15, 1939.

cheek. This flap was swung around to cover the denuded surface left by elevating the margin of the lip upward and inward. The lower end of the flap was left attached to insure adequate blood supply and drainage (fig. 5). The bed of the flap was closed with fine horse-hair sutures augmented by fine silk-worm gut mattress sutures to relieve the tension.

Stage 3. When the pedicle flap had become well established in its new position, it was severed from its base and the base returned to the cheek. Then, this produced a lip that was of normal height, lined on the inside with epithelium and covered on the outside by skin taken from the cheek which matched perfectly the texture of normal lip skin. Skin that is taken from other parts of the body is considerably different in texture, appearance and quality and is not so readily applicable to replace lost facial skin.

Stage 4. A year later the scar on the cheek had spread somewhat so it was carefully excised and the margins accurately approximated with a subcuticular suture. When healing was complete, the defect on the cheek was scarcely perceptible (fig. 6).



Fig. 1. Original appearance of the mouth showing functionless lower lip and inability to close the mouth.
Fig. 6. The end-result.

CONCLUSIONS

The results of any reconstructive procedure must be measured by its degree approaching:

1. Cosmetic similarity to the normal structure. This is particularly applicable to the face, where variance from the normal may mean serious personality complexes, which in turn can deter and handicap an individual far more than the actual intrinsic functional loss. The new lip is certainly a much less conspicuous structure than the glaring absence of a lip.

2. Establishment of near to normal function. It is absurd to compare results with a natural lip but here there has been a marked improvement over what the original condition offered. This lad is now able to use his reconstructed lip in a close to normal fashion. There is no more spilling of liquids or saliva during eating and drinking. This lip is

sufficiently mobile to permit the boy to whistle, something that he had never been able to do before and is now his most cherished accomplishment.

3. Simplicity is the keynote of this operation as is indicated by the accompanying drawings. The various steps in themselves are not difficult, if one will keep in mind the Langer lines of the skin tension, the anatomic relationship of musculature, the motor innervation and blood supply and drainage.

MECKEL'S DIVERTICULUM WITH ECTOPIC GASTRIC TISSUE, PERFORATION AND HEMORRHAGE*

S. F. HERRMANN, M.D.

C. P. LARSON, M.D.

B. A. BROWN, M.D.

TACOMA, WASH.

This case of Meckel's diverticulum is reported because it represents essentially an accessory stomach which has produced the complications of marginal ulcer with hemorrhage and perforation. Persistent vitelline duct remnants occur in one to two per cent of humans. Patches of gastric mucosa were present in thirteen per cent of the cases of Meckel's diverticula reviewed and studied by Curd¹. Duodenal glands and pancreatic tissue are less frequently present. Simple intestinal diverticula are subject to such complications as inflammation, gangrene and intestinal obstruction by intussusception, but whenever gastric mucosa is present there are the added dangers of ulceration, hemorrhage and perforation. Carcinoma rarely develops². Clinical symptoms and complications have been thoroughly analyzed by Womack and Siegert³.

Peptic ulcer, secondary to Meckel's diverticulum, was present in one hundred instances collected from the literature by Cobb⁴. Only seventeen of these were correctly diagnosed before operation. Hemorrhage occurred in seventy-two and perforation in fifty-five. The mortality from perforation was thirty-six per cent. The high mortality of perforation and other complications of these diverticula may be reduced by repeatedly calling the attention of the profession to illustrative cases. It would, therefore, seem worthwhile to report another case,

*From Laboratories of Tacoma General Hospital and from Pierce County Hospital.

1. Curd, H. H.: Histologic Study of Meckel's Diverticulum, *Arch. Surg.*, 32:506-523, March, 1936.

2. Gray, H. K. and Kernohan, J. W.: Meckel's Diverticulum Associated with Intussusception and Adenocarcinoma of Ectopic Gastric Mucosa, *J.A.M.A.*, 108:1480-1482, May 1, 1937.

3. Womack, A. A. and Siegert, R. B.: Surgical Aspects of Lesion of Meckel's Diverticulum, *Ann. Surg.*, 108:221-236, Aug., 1938.

4. Cobb, D. B.: Meckel's Diverticulum with Peptic Ulcer, *Ann. Surg.*, 103:747-764, May, 1936.

in which the correct diagnosis was made preoperatively, even though the diagnosis was made one and one-half years after the first presenting symptoms.

CASE REPORT

W. S., male, age eleven years, was admitted to Pierce County Hospital on March 16, 1940, complaining of pain in the lower abdomen. Three days before admission this pain began rather suddenly, was sharp, persistent and unaccompanied by nausea, diarrhea or constipation. There was slight burning with micturition.

Past history. He was first admitted to the hospital in 1937 when a circumcision was performed. Second admission was in April, 1938, at which time he had an acute spell of vomiting, but since examination was negative he was discharged the same day with diagnosis of constipation.

He was readmitted August 4 complaining of nausea and severe pain in the entire lower abdomen. He was afebrile. The abdomen was rigid, with maximal tenderness in the right lower quadrant, although he indicated the most severe pain to be on the left side. The interne's diagnosis was acute appendicitis with possible perforation. He removed a normal appendix and noted excessive, nonpurulent peritoneal fluid and a grossly normal terminal ileum. Recovery was uneventful.

He again entered the hospital October 31, 1939, complaining of nausea, lower abdominal pain and burning micturition. The same tenderness and rigidity which was noted before the appendectomy were again present. Pus cells and bacteria were found in the urine. The abdominal symptoms subsided completely and he was discharged after three days observation with a diagnosis of pyelocystitis. The boy was perfectly well in the intervals between these attacks.



Fig. 1. Lipiodol visualization of diverticulum and connection with ileum.

The last admission was March 16, 1940, at which time his complaints were essentially the same. Physical examination disclosed a normally developed boy with a temperature of 100° F., pulse 120, respiration 32, and generalized abdominal tenderness. Abdominal pain continued, fever persisted 99° to 101° and on the fourth day a fistula appeared at the umbilicus. This drained a watery brown fluid which contained free hydrochloric acid. A diagnosis was made of omphalomesenteric fistula and, with the application of hot packs and establishment of drainage, the fever and pain quickly subsided. Four days later the discharge became dark brown, suggesting old blood, and he developed tarry stools. At this time his red blood cell count was 3,140,000 and hemoglobin 14 per cent. On the twelfth hos-

pital day a lipiodol injection into the umbilical sinus demonstrated a large pouch which connected with the intestine (fig. 1).

On the basis of a diagnosis of Meckel's diverticulum with ulceration and hemorrhage, operation was performed March 29. A transverse incision was made surrounding the umbilicus, the latter being closed by silk sutures. A vertical incision was then made in the midline toward the pubis. On opening the peritoneum a large tubular mass was found,

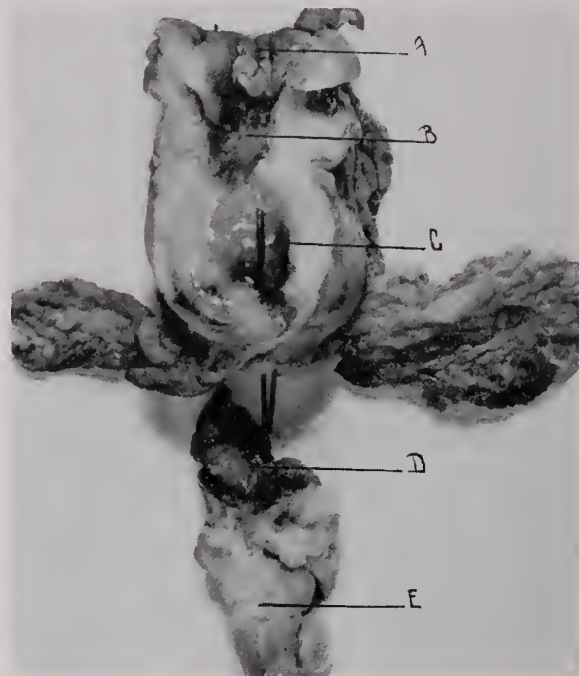


Fig. 2. Gross specimen. A, umbilicus; B, sinus tract; C, Meckel's diverticulum; D, ileal ulcer; E, enlarged mesenteric lymph glands.

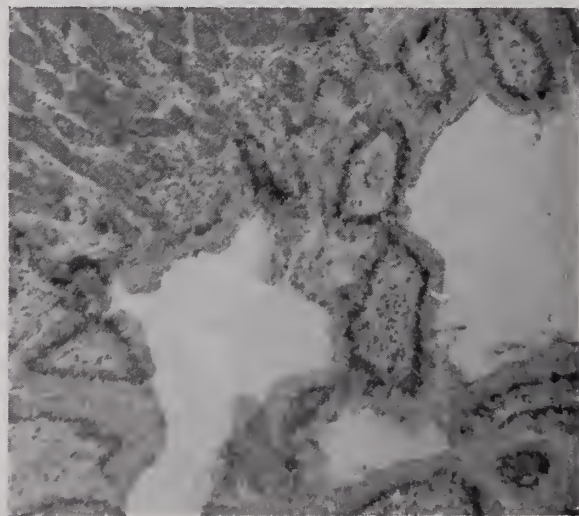


Fig. 3. Photomicrograph (H.P.) showing gastric mucosa.

extending from the umbilicus to the terminal ileum, about twenty centimeters proximal to the cecum. This mass arose from the mesenteric border of the ileum and proved to be a large diverticulum. At its junction with the ileum there was a crateriform ulcer which had evidently per-

forated at some time in the past as was indicated by the surrounding fibrinous adhesions. Several large lymph glands were found in the adjacent mesentery. The diverticulum derived its blood supply from large omphalomesenteric vessels through the omentum. The tumor mass, which looked and felt like a little accessory stomach, was removed along with a resection of the ulcer in the ileum. The opening in the ileum was closed by transverse suture with Duxol gut and reinforced with interrupted silk sutures. The omentum was brought over the roughened surface of the ileum where the adhesions had been divided and the abdomen closed. A small rubber tissue drain was placed down to the fascia at the level of the umbilicus. The wound healed nicely, recovery was uneventful and the patient was discharged on the fourteenth postoperative day.

Pathologic report. The specimen consists of an umbilicus, a diverticulum, a sinus tract connecting the umbilicus with the diverticulum, an ileal ulcer and mesenteric lymph glands. The umbilicus measures 2 cm. in diameter and is sutured together with silk thread. The diverticulum is roughly circular in shape and measures approximately 4 cm. in diameter. On cut surface there is a central cavity measuring 1.5 cm. in diameter which is lined by hypertrophied thickened mucosa grossly resembling gastric mucosa. There is a thick muscular wall and an outside peritoneal covering. The organ derives its blood supply from large vessels which enter through the omentum. The diverticulum is connected with the umbilicus by means of a sinus tract. The walls of this sinus are ragged, partially necrotic and covered with a fibro-purulent exudate. In addition to the sinus tract there is a second opening from the diverticulum which connects with the ileum (fig. 2). A portion of the ileum, including an ulcer which measures approximately 1.5 cm. in diameter, is included. The edges of this ulcer are formed by edematous, reddened, thickened ileal mucosa. Lying in the mesentery of this ulcer are several firm lymph glands which on cut surface have a homogeneous pale reddish gray color.

Microscopic examination of the diverticulum shows typical gastric mucosa containing patches of lymphoid infiltration. The glands are identical with those found in the fundic portion of the stomach (fig. 3). There is a well defined muscularis mucosa, a thick smooth muscle wall and a peritoneal covering. Microscopic study of the ileum shows a chronic ulcer and the mesenteric glands present an exudative lymphadenitis. The sinus tract is composed of connective tissue which is diffusely infiltrated by a purulent exudate. There is no epithelial lining of the sinus.

Final Diagnosis: Persistent omphalomesenteric duct (Meckel's diverticulum), gastric mucosa in diverticulum, chronically infected sinus tract connecting diverticulum with umbilicus, ileal ulcer at junction of diverticulum with ileum.

OBSTETRIC ANALGESIA AND ANESTHESIA*

JOHN C. BROUGHER, M.D.
VANCOUVER, WASH.

Inherently man fears pain and seeks to avoid the undesirable emotions attached to it. James Young Simpson was able to relieve the pain of childbirth by the use of chloroform but in so doing encountered much opposition. However, nothing daunted him.

It is difficult to imagine an era when forceps were

applied after long labor and no anesthesia given, adding torture to the pains of childbirth already suffered. In those days the operation of cesarian section was virtually a death warrant. As the incidence of rickets was high, the resulting pelvic contractions necessitated countless craniotomies and forceps extractions with patients fully conscious.

The advent of the administration of ether for the alleviation of pain, an American invention by the dentist Morton in 1846, was one of the great medical triumphs of all time. Oliver Wendell Holmes, our physician poet, for whom medical men in particular have an especial affection, coined the word anesthesia.

In December, 1846, ether was introduced into England from America and on the 19th of that month it was first used for a tooth extraction. Within a month of that date Simpson was able to use the new drug in obstetrics. Ether was first used in America for this purpose on April 7, 1847, by Keep of Boston.

Simpson had always held that the medical practitioner had two main aims, the preservation of human life and the alleviation of human suffering, and so the introduction of ether into obstetrics gave him great satisfaction. He soon realized, however, that it was not the ideal anesthetic. Induction with it was somewhat slow, it was bulky and inflammable, and the lightly anesthetized patient was liable to vomit. He, therefore, set about to discover a better agent. Most of his very scanty spare time was occupied in trying out on himself the effect of various drugs. He finally discovered a thick heavy liquid which he and some of his associates inhaled to the point of hilarity and then unconsciousness. He greatly preferred this substance to ether and rapidly ousted ether from his midwifery practice. He first used chloroform on November 8, 1847.

In 1902 von Steinbuchel tried out for the first time the effect of scopolamine and morphine in obstetric practice. Then came the advent of nitrous oxide, ethylene, cyclopropane and vinyl ether. In the early days of the employment of morphine and scopolamine to relieve the pains of labor, a high percentage of babies was born in blue asphyxia. When amnesia instead of analgesia became the aim, the incidence of asphyxia fell considerably, and the condition of oligopnea, which need never cause alarm, was described. Following a variety of methods in using hyoscine for narcosis, newer drugs and combinations such as paraldehyde, avertin and Gwathmey's quinine oil ether method with magnesium sulphate came into use. Many barbiturics

*Read before a meeting of Washington State Obstetrical Association, Seattle, Wash., April 6, 1940.

and derivatives, including sodium amytal, sodium soneryl, sodium evipan, herboral sodium, nembutal, pernocton, rectidon and seconal, were introduced.

In May, 1931, I reported in *NORTHWEST MEDICINE* the use of sodium amytal in obstetric analgesia and was very enthusiastic concerning its use but, because of the cases of uncontrollable delirium, I decided that this method was not ideal. However, when morphine was used with sodium amytal the incidence of delirium was reduced from 10 to 5 per cent but the percentage of asphyxiated babies requiring effort to resuscitate increased in direct proportion.

Then I used pentobarbital sodium and followed with 1/150 gr. of scopolamine in the primipara, and quinetherol as an adjunct in some instances and morphine occasionally for the primiparous woman having a prolonged labor. Nitrous oxide gas or ether was used for the second stage of labor. This combination was discontinued because it often produced excitement and delirium.

Because of favorable reports in the literature from the use of paraldehyde, I began using it orally two years ago, giving 4 drachm doses when the cervix was two fingers dilated, and preceding its use with pentobarbital sodium in dosage of two to six capsules, depending on the length of labor, giving two capsules at a time. The results from these drugs were good except that the action of pentobarbital sodium is a little slow and has too short a duration.

When Eli Lilly Company produced a combination capsule of 1 gr. seconal, 2 gr. sodium amytal,* I became much interested and have used it now for nine months in 133 labors. I find this combination the best barbiturate used and very suitable to be used preceding paraldehyde, especially in prolonged labors. Complete amnesia was obtained in 98 per cent and partial amnesia in 2 per cent of the cases included in this report. The undesirable delirious states, wherein a patient throws herself and is difficult to restrain, have been reduced to 3 per cent, whereas it was 10 per cent when scopolamine and barbiturate were used together. The capsules and paraldehyde are not ideal, since the narcosis still causes 31 per cent to become quite restless between their contractions, 15 per cent manifest only a minor amount of moving about with the pain, and 52 per cent are classified as relatively quiet. In this report of 133 cases, many groaned and moaned but only two multiparous patients screamed before ether was administered.

The capsules and paraldehyde are both given orally and in dosage just sufficient to cause the patient to sleep between pains, I give two capsules at a time and have given as many as eight, and 8 drachms of paraldehyde in twenty-four hour labor. I have seen no harm from their combined use. The paraldehyde is given orally in 2 drachm doses with an equal amount of aromatic elixir. Cotton is placed in the patient's nostrils before she swallows the paraldehyde and, if sedated with the capsules containing seconal and sodium amytal, she is not likely to vomit. If emesis occurs, paraldehyde in mineral oil is given by rectum.

The average length of labor for multiparae was 11.7 hours and for primiparae 23.6 hours, which is longer than when I used pentobarbital sodium and scopolamine. However, 74 per cent of the primiparae had an average length of labor of 9.9 hours. Weak or irregular contractions were depressed but strong contractions did not seem materially affected.

It is generally agreed that any analgesic used to the point of producing amnesia increases the incidence of forceps delivery. A summary of the types of delivery here used are: 1 per cent cesarian, 7 per cent Kjelland forceps, 70 per cent low forceps, 2 per cent breech extraction, 3 per cent manual rotation, and 17 per cent spontaneous deliveries.

In this series only two patients had a temperature above 101°; the etiology of one was pyelitis and of the other puerperal infection. Both patients recovered. There were no infected episiotomies.

Ergotrate (Lilly) was administered as soon as the baby was born and the blood loss was relatively small. There was only one retained placenta and it was expelled spontaneously eight hours later. This patient exhibited a moderate degree of shock but made an uneventful recovery.

The doctor and nurse are always interested in the effect of analgesia on respiration and crying in the newborn. Oligopnea was noted in 55 per cent, 10 per cent of which were given carbon dioxide and the remainder breathed after stimulation by rubbing along the spine. Six per cent of the babies cried immediately. Thirty-nine per cent had normal heart and respiratory rhythm and did not require any external stimulation although they showed mild narcosis. The 55 per cent showing retarded or delayed initial respiration had a palpably good apex heart beat, so that a little delay in respiration offered no cause for alarm. I lay the baby on a sterile bath towel on the mother's lower abdomen and do not clamp the cord until pulsation ceases.

To give a little more detailed description of the

*The capsules were furnished for this study by the Eli Lilly Company.

plan of analgesia that I have found practical and safe in relieving the pain of childbirth and producing amnesia, I find the best results are obtained when medication is given early in labor. Having secured the confidence of the patient, small doses, two capsules to the primipara and three capsules to the multipara should be given when pains become regular. This will usually allow the patient to sleep between her pains. During duration of labor as much as 6-9 grs. may be given.

In using sedatives it is well to darken the room. Concerning the time for giving analgesia, I should like to quote Bills' words: "A certain amount of dilation of the os is not deemed essential as an index of the time to start analgesia. The fact that a patient has pains which hurt her is sufficient, regardless of dilation."

In these 133 labors I have used an average dose of four capsules of seconal and sodium amytal combination for the primipara and three capsules for the multipara preceding 2 - 6 drachms of paraldehyde. The advantage over pentobarbital sodium is the fact that the action is quicker and more prolonged and takes fewer capsules to get amnesia. Patients who have had deliveries without sedation and then with sedation invariably prefer the painless method.

There have been no maternal or fetal deaths in this report and no babies have been difficult to resuscitate, although 5 per cent have been given carbogen. Most of the babies are slower in breathing than those born with the mother receiving only gas or ether with second stage pains. The baby from the mother who received eight capsules, and

8 drachms of paraldehyde in twenty-four hours cried lustily immediately after birth and showed only slight asphyxia.

We all agree that no drug thus far discovered is an ideal agent for relieving labor pains and causing amnesia without occasionally causing undesirable side effects. These patients all require closer attention and the use of a special bed or a protecting padded board strapped to the bed as a precaution against the patient's getting up. If a board is not used, a relative should be instructed to remain constantly by the patient but not to restrain her from rolling about with the pains. In a hospital equipped with sufficient nurses this may not be necessary, but in most and especially the smaller institutions it is safer to have such protection. The husband and family should be taught to expect some restlessness during labor and a prolonged sleep after delivery.

It is true that narcosis during labor increases the use of forceps but episiotomy and low forceps are preferred by many obstetricians. To those who believe in relieving the pain of childbirth it would be just as absurd to do a laparotomy without anaesthesia as to allow a mother to go through a labor and delivery with nothing for the pain.

In conclusion, I wish to state that obstetric analgesia has removed obstetrics from the field of midwifery as the discovery of antisepsis removed surgery from the domain of barbers. We still need to be cautious about the use of drugs in labor as the ideal one has not been found. However, this fact should stimulate us to work toward the goal of a perfect analgesic for obstetrics.

INTERNATIONAL ASSEMBLY

INTER-STATE POSTGRADUATE MEDICAL ASSOCIATION OF
NORTH AMERICA

This year's International Assembly of the Inter-State Postgraduate Medical Association of North America will be held in the Public Auditorium, Cleveland, Ohio, October 14-18. The Academy of Medicine of Cleveland and the Cuyahoga County Medical Society will be host to the Assembly and have arranged an excellent list of committees who will function throughout the Assembly. A full program of scientific clinical sessions will take place each day and evening of the Assembly, starting at 8:00 o'clock in the morning.

In cooperation with the Academy of Medicine and the Cuyahoga County Medical Society, the Ohio State Medical Association and the Cleveland Convention and Visitors' Bureau and Cleveland Chamber of Commerce, a most excellent opportunity for an intensive week of postgraduate medical instruction is offered by in the neighborhood of eighty distinguished teachers and clinicians from different parts of the United States and Canada who are honoring the Assembly by contributing to the program. The speakers and subjects have been carefully selected by the program committee. Excellent scientific and commercial exhibits of great interest to the medical profession will be an important part of the Assembly. These exhibits will be open to members of the medical profession in good standing without paying the registration fee. Names of speakers for this Assembly will be found on page 10.

MEDICAL PREPAREDNESS QUESTIONNAIRE RETURNED BY ALMOST 80,000

"Almost 180,000 questionnaires for the submission of personal information to be associated with any mobilization of the medical profession that may be required have now been put in the mails and, as we go to press, almost 80,000 of these have been returned," *The Journal of the American Medical Association* for August 17 announces in its Medical Preparedness Section.

"It is interesting to observe the varying percentages of physicians in various states who have replied. Nebraska leads all other states with more than 71 per cent, whereas New Mexico, Mississippi and Tennessee have made the smallest return."

The Journal says that the record of returns on the questionnaires will be listed from week to week as it is highly important that there be a card in the files of the Committee on Medical Preparedness of the American Medical Association for every physician in the United States regardless of his ability to render military service.

SCABIES

The value of Pyrethrum in scabies is well established through the clinical work of Dr. S. E. Sweitzer (Scabies, Further Observations on Its Treatment With Pyrethrum Ointment, *Journal-Lancel*, Sept., 1936, Vol. LVI, No. 9, p. 467) who used it on 1213 cases at Minneapolis General Hospital. See advertisement, page 350.

STATE SECTIONS

OREGON STATE MEDICAL SOCIETY



SIXTY-SIXTH ANNUAL MEETING, EUGENE, SEPT. 4-7

RETIREMENT OF FAITHFUL PUBLIC OFFICIAL

The resignation of Dr. Joseph F. Wood from the secretaryship and membership of the Oregon State Board of Medical Examiners is of sufficient significance to justify special comment. This is not the place, and certainly not the instance, to speculate on motives, nor to give credence to rumors. Suffice it to say that Dr. Wood has resigned after twenty years of earnest service, unselfishly given and for many years without personal remuneration. The medical profession of Oregon knows this to be true, and it is sufficient to know. Unpleasantness arises in all occupations, more so in public office, but this is soon forgotten. Remembered, however, will be the man who has kept faithfully at such a job, who has had the courage to carry out the policies as he saw them and asked for no quarter. These things Dr. Wood has done and for them he will be remembered by his colleagues. It is for these things that he is being thanked.

LEGAL MEDICINE

RECENT CALIFORNIA DECISIONS HOLDING CHARITABLE HOSPITALS LIABLE TO PATIENTS FOR INJURIES CAUSED BY NEGLIGENCE OF HOSPITAL EMPLOYEES; PROBABLE EFFECT ON OREGON LAW RE LIABILITY OF CHARITABLE HOSPITALS

Former California Law

Until recently, the California courts have held that *charitable hospitals* are not liable for injuries to *patients* caused by negligence of hospital employees. At the same time, such hospitals were held liable to *strangers or employees* under the ordinary rules of negligence. The exemption from liability was based on one of three grounds, to-wit:

a. doctrine of implied waiver (that patients who sought the services of such a hospital impliedly waived subjecting "trust funds" to claims for damages);

b. the "trust fund theory" (trust funds of such a hospital cannot be diverted to purposes not intended by the trust);

c. recovery is against public policy (it is the policy of the courts to encourage gifts, etc. for charitable purposes, and if they are held liable people will be discouraged from making gifts, and since charitable hospitals derive no profit from their work and are founded for the purpose of conserving the health and life of all who need their aid, justice and sound policy dictate that they should be exempt from liability).

Two Recent California Cases

Two recent California cases have reversed this position, and hold specifically that such hospitals are liable to patients for negligence of their employees: *Silva vs. Providence Hospital of Oakland*, 99 Cal. Dec. 20, 97 P. (2d)

798; *England vs. Hospital of the Good Samaritan*, 99 Cal. Dec. 38, 97 P. (2d) 813.

In the *Silva* case, the hospital was incorporated under the nonprofit statutes for the purpose of erecting and maintaining hospitals to provide medical and surgical care to sick persons. The corporation had no capital stock and its members or officers derive no pecuniary profit from the operation of the hospital and served without pay. Poor and needy persons were admitted to the hospital without distinction of class or creed, and charity patients were afforded the same treatment as patients who paid for services rendered. The hospital was owned by the Sisters of Charity of Montreal, Quebec, and had been erected with money borrowed from the Roman Catholic Archbishop of San Francisco, and the earnings of the hospital were used in part to pay off the indebtedness created thereby. Plaintiff was a paying patient, paying the regular hospital rates. During the year in which plaintiff was injured, 6 per cent of the patients were cared for as a matter of charity, 30 per cent paid the charges of the hospital in part, and the remainder, or 64 per cent, paid their bills in full.

The *England* case involved the same legal questions.

It will thus be seen that the court clearly and unequivocally overruled prior decisions.

Status of Oregon Law

Oregon cases have given charitable corporations broader exemption from liability than was true under the former California decisions. (It is assumed that the same rules apply to charitable hospitals as to other charitable corporations). This exemption has been applied, for instance:

a. In an action for damages by a minor to recover for injuries allegedly caused by the discharge of a gopher gun upon the campus of Tualatin Academy (on trust fund theory), *Hill vs. Tualatin Academy and Pacific University*, (1912), 61 Ore. 190 (although it may very well be argued that it was not necessary for the court to decide this question);

b. In an action for damages by an employee of the Oddfellows Home allegedly caused by falling from a ladder while hanging clothes (also on trust fund theory), *O'Neill vs. Oddfellows Home* (1918), 89 Ore. 382 (it might also be argued that it was not necessary for the court to decide the question in this case);

c. In an action for damages based upon injuries allegedly caused by the negligent use of an electric heating pad. *Hamilton vs. Corvallis Hospital Assn.* (1934), 146 Ore. 168 (in this case the hospital was held liable, because the court held it was not a charitable hospital);

d. Many cases which never reached the Supreme Court have been decided by the circuit courts of Oregon based upon the reasoning of the *Corvallis Hospital* case.

Conditions Precedent to Nonliability in Oregon

Unless the hospital or other institution claiming existence of nonliability is truly a nonprofit and charitable one, the doctrine of nonliability does not prevail. Various definitions of charitable have been used in Oregon decisions. In general, the definitions contemplate a nonprofit body which

derives its funds (at least partly) from public and private charity, holds such funds in trust, exists for a charitable purpose and expends its funds for a purpose which the law regards as charitable, *Hamilton vs. Corvallis Hospital Assn.*, supra.

Nonprofit institutions may, for all practical purposes, be regarded as synonymous with institutions organized under the nonprofit statutes, Section 25-901 through Section 25-932, Oregon Code, 1930, as amended. (These sections codify several separate statutes. There may be a difference in the strength of Oregon cases, depending on which of the said statutes is used, see Section 25-914, Oregon Code, 1930 quoted below).

In determining whether the institution is a nonprofit one or a charitable one the courts will consider:

- a. the statutes or other legal authority under which it is organized;
- b. the express provisions of its articles of incorporation, by-laws and other instruments affecting its management;
- c. the manner of carrying out its purposes.

Decision of this question often raises a question of fact for the jury. Thus, in the case of *Hamilton vs. Corvallis Hospital Association*, even though the hospital was organized under a nonprofit statute and its articles of incorporation showed a charitable purpose, the Supreme Court held that the trial court did not err in submitting to the jury the question of whether the hospital was a charitable one.

Reosans Given by Oregon Courts for Holding Charitable Institution Not Liable

If an institution is a nonprofit, charitable one under the above definitions, the Oregon courts have held it not liable for the following reasons:

- a. implied waiver (see above definition);
- b. trust fund doctrine (see above definition);
- c. public policy (see above definition);
- d. Section 25-914, Oregon Code, 1930, which provides, " * * * no part of the resources of said corporation shall ever be used for any other than the object herein named; * * * ".

See, *Hamilton vs. Corvallis Hospital Assn.* and *O'Neill vs. Oddfellows Home*, supra.

Actually, the courts seem to rely upon the trust fund doctrine. Also, the above statute appears to be a legislative recognition of the trust fund doctrine. Thus, both at common law, and by statute, the main reliance of the Oregon courts seems to be upon the trust fund doctrine.

Probable Effect of Recent California Decisions

In these days of changing precedents, indulged in even by the Supreme Court of the United States, it is not possible to be absolutely certain in making a prognosis of future decisions of our courts. Also, it must be remembered that lawyers have a traditional saying that hard cases make bad law.

It was pointed out above that in California (even prior to the *Silva* case) charitable hospitals were held liable to strangers and employees, and that the exemption from liability applied only as to patients. But in Oregon the courts have apparently extended the principle of nonliability to strangers and employees. See, *O'Neill vs. Oddfellows Home*, and *Hill vs. President and Trustees of Tualatin Academy, etc.*, supra. Thus, the California courts had greatly weakened their holdings by undermining the reasons therefor, even prior to the *Silva* case, and the Oregon courts have consistently applied the trust fund doctrine in cases brought by patients, employees and strangers alike.

It is submitted that the Oregon courts have committed themselves to the doctrine that nonprofit, charitable institutions are not liable for the negligence of their employees, and they are not likely to reverse such decisions, especially in cases in which the institution is incorporated under the statute quoted in part above. Any relaxation of the rule will probably be made indirectly, by deciding that a particular institution was not in fact a nonprofit or not a charitable one, as was done in *Hamilton vs. Corvallis Hospital Assn.*; supra.

ORGANIZATION ACTIVITIES

MEETING OF EXECUTIVE COMMITTEE

The joint meeting of the Executive Committee of the Council and the Executive Committee of the Bureau of Medical Economics was held July 31. The financial report of the treasurer was considered and accepted.

Charles Newcastle explained the reason for the resignation of Joseph F. Wood from the Oregon State Board of Medical Examiners. Approval was given to five names which were to be submitted to Governor Sprague to fill this vacancy on the Board of Medical Examiners with the understanding that these names were not submitted for the secretaryship.

The request of Lincoln County Medical Society that the Physicians and Surgeons Hospital Association of Salem be authorized to extend its activities to the territory embraced by Lincoln County Medical Society was granted.

There was considerable discussion of the request of Multnomah Medical Service Bureau for consideration of a policy with respect to medical reimbursement insurance for families of employees who are now subscribers of approved medical service bureaus. This problem was referred to the proper committee of the Bureau of Medical Economics for further study.

Approval was granted for a representative, or representatives, to be sent to a Pacific Coast conference to discuss mutual problems of medical care.

Policies were suggested which should serve for discussion at the annual meeting of the Pacific States Medical Executives Conference to be held in Portland later in the fall.

There was considerable discussion of plans for the annual meeting, and also approval was given to proposed exhibits to be shown by Oregon State Medical Society at Multnomah County Fair and Oregon State Fair.

On August 21 the Council of the State Medical Society met to consider these matters as well as many others. Approval of the above action of the Executive Committee was granted. The Council approved the organization of an Oregon Physicians Committee for Extension of Medical Service to supplement the work of the N. P. C. for E. M. S. A number of items of business were discussed and put in order for discussion before the House of Delegates.

STATE BOARD OF MEDICAL EXAMINERS

The following thirty-one candidates in the June examination conducted by the Oregon State Board of Medical Examiners have been granted licenses to practice in Oregon. Each candidate finished his internship in Portland:

Ernest Frederick Beber, Milton Worth Durbam, Willard Marvin Peterson, Abe Puziss, Marshall Arthur Rockwell, Douglas Quintin Thompson, Verne Lewis Adams, George

William Cottrell, Milton DeVries Brunkow, Irvin Bartle Hill, Charles H. Barr, Edward Chung Louie, E. Lew Hurd, Marshall Randolph Kennedy, Keith Walter Corpe, Marvin Rohh, Herbert Eugene Mason, Theodore Maxwell Lundy, Martin Francis Gilmore, Paul Metz, Ivan Axel Anderson, John McKinley Guiss, Keith Palmer Russell, Ralph Waldo Pearson, Frank Louis Harms, George Hans Lage, John Day McGovern, Emmanuel Bitar, Everett Lloyd Sundquist, Sherwood Petersen Burr, Bernard Patrick Harpole.

PORTLAND ACADEMY OF MEDICINE MEETING

September 23-24, 8 p.m.

F. B. Kistner, Pres. Guy L. Boyden, First Vice-Pres.
E. H. McLean, Second Vice-Pres.

A. G. Bettman, Treasurer Warren C. Hunter, Secretary
Auditorium, University of Oregon Medical School,

1. "Trends of Fundamental Cancer Research."

2. "The Control of Cancer."

DR. LUDVIG HEKTOEN, Chicago, Ill.

The name of Ludvig Hektoen has been so intimately associated with medical education and scientific research in this country during the past half century that an introduction to physicians anywhere is unnecessary. His activities and achievements ever since he assumed the professorship of pathology in Rush Medical College in 1895 are far too numerous and varied to be recounted in anything short of a biography. Pathologist, contributor of important research results, eminent teacher, authority on forensic medicine, director of the John McCormick Institute for Infectious Diseases throughout its existence, Chairman of the Committee on Scientific Research of the American Medical Association and of the division of Medical Sciences of the National Research Council, later Director of the National Research Council, for many years editor of the *Journal of Infectious Diseases*, editor of *Archives of Pathology* since its inception, recipient of honorary degrees from several American universities, author of nearly three hundred scientific papers, these are but a few of a long list of distinguished accomplishments and honors that have come as a result of his preeminent position in American medicine.

Although Dr. Hektoen retired from active teaching in University of Chicago in 1932, he has continued his editorial and committee duties and for the past several years has been Executive Director of the National Advisory Cancer Council under the National Institute of Health, a division of the United States Public Health Service.

It was twenty years ago that Dr. Hektoen delivered the Noble Wiley Jones lectures in Portland. Now the Academy of Medicine is happy to welcome him again for a discussion of a topic on which he is eminently qualified to speak.

WARREN C. HUNTER.

STATE BOARD OF HEALTH

Laboratory Rating High

The Committee on Evaluation of Serodiagnostic Tests for Syphilis, composed of members of the United States Public Health Service and the American Society of Clinical Pathologists, has just released the results of a recent evaluation study of the several state laboratories. In each state these laboratories serve as control units for the laboratories in that state. Results of the study revealed a great improvement in reliability of tests done today as compared with those done previously.

The Oregon State Hygienic Laboratory rated very high in this study, with a specificity rating of 100 per cent and a sensitivity rating of only one-half of 1 per cent less than perfect, which means that the laboratory gave no false positives and only rarely gave a negative report on a blood

which had a very low titer of reagent. The tests were ideal from the standpoint of a control laboratory.

Plans for Survey Made

Preliminary arrangements have been made for a cooperative water pollution survey of the lower Columbia River by the Washington Stream Pollution Commission and the Oregon Sanitary Authority. The purpose of this survey is to determine the present and potential sources of pollution of the Columbia River. Some special effort will be directed to determining the cause of slime accumulation on the nets of commercial fishermen which has recently become of considerable economic importance.

Typing of Typhoid Bacilli Discussed

Dr. Alfred S. Lazarus of the Department of Bacteriology and Public Health at the University of Colorado Medical School recently visited the State Hygienic Laboratory to confer with Dr. William Levin regarding typing of typhoid. The bacteriophage method of typing typhoid organisms is proving of considerable epidemiologic importance in tracing epidemics to their source and, if preliminary work is substantiated, the procedure will aid greatly in the rapidity of control of epidemics of this disease.

Oregon Cities Maintain High Quality Milk Supply

The Fourteenth Semi-Annual Revision of the list of Urban Communities, in which both pasteurized market milk and raw market milk is produced in accordance with Grade A Milk Requirements of the Public Health Service Milk Ordinance and Code, was recently published. Three Oregon cities appear in the "90 per cent or better" group. These cities are Portland and Astoria which have both appeared on the list for some time, and Seaside which appears for the first time.

Hearing and Vision Consultant Added to Staff

The Division of Maternal and Child Health announces the addition to its staff of Warren H. Gardner, Ph.D., as consultant in Health and Vision. Dr. Gardner is a clinical psychologist and speech pathologist with special interest in hearing and visually-handicapped children. He has tested over 200,000 children in the last four years in Indiana and Iowa, and has advised parents, teachers, nurses and school officials on programs of correction and retaining of handicapped children. He will revisit selected communities in Oregon for retests of children found deficient in the first survey, and for conferences and meetings with school, medical and lay groups.

Regional Consultant Visits Oregon

Miss Anna Heisler, Regional Public Health Nursing Consultant, District Number Five, U. S. Public Health Service, visited Oregon during the week of July 29. She held staff conferences with the Division of Public Health Nursing and visited various health departments.

Graduate Nurses Accepted

Graduate nurses have been accepted by the Marion County Health Department for in-service training for the months of July, August and September. This is a part of the new policy in recruiting personnel for training in public health nursing now approved by the Division of Public Health Nursing.

Staff Members on Educational Leave

County health departments report that at least nine of their staff nurses are on educational leave this summer and are enrolled in various universities for advanced work. Colleges are University of Oregon, University of California and University of Minnesota.

MEDICAL NOTES

BASIC SCIENCE EXAMINATION will be held Saturday, October 26, 8:30 a. m., Main Library, Portland. The schedule of subjects includes anatomy, pathology, physiology, chemistry, hygiene. Application blanks may be obtained from Charles D. Byrne, secretary, State Board of Higher Education, Eugene. These should be filed in the office of the secretary not later than noon, October 9.

Joseph F. Wood resigned as secretary of the State Board of Medical Examiners and also from membership on the board in July. His successor on the board has not been appointed as yet. L. S. Besson is acting secretary until such an appointment is made.

Keith Russell has been named by Adolph Weinzirl, city health officer, as director of the Division of Communicable Disease Control. Dr. Russell graduated from University of Oregon Medical School and has recently completed his internship at Multnomah County Hospital.

Mr. J. E. Moore of LaGrande is the newly appointed business manager of Josephine County General Hospital, having assumed these duties in August. The new superintendent of the hospital has not been announced.

Mr. Eugene C. Ellis, formerly of Seaside, has taken charge of Grande Ronde Hospital, succeeding Mr. J. E. Moore who is the newly appointed superintendent of Josephine County Hospital.

Weldon T. Ross has become associated with John G. Manning of McMinnville. Dr. Ross is a graduate of University of Oregon Medical School.

A new medical building has been opened by J. E. Vinson at Seaside.

M. M. Collings announces the opening of offices in Troutdale. Dr. Collings is a graduate of University of Oregon Medical School in 1931 and had his internship in Chicago.

Marshall Kennedy has entered practice in Coquille in association with Drs. Rankin and Gould. Dr. Kennedy is a graduate of University of Oklahoma Medical School in 1938 and recently finished his internship at Good Samaritan Hospital in Portland.

V. C. Staats has moved his office from McMinnville, where he practiced for seven years, to Dallas.

Marshall A. Rockwell has taken over the practice of R. I. Hall of Veronia. He recently finished his internship at the Portland Sanitarium.

E. L. Sundquist has become associated with Milton V. Walker of Springfield. Dr. Sundquist is a graduate of Rush Medical College and has recently finished his internship at Good Samaritan Hospital in Portland.

MICROSCOPE STOLEN

Microscope stolen from Good Samaritan Hospital. Binocular Bosch and Lomb scope with upright stand. If anyone, except bona fide agent, offers second-hand scope for sale, please be on lookout for scope of this description. Any information will be appreciated.

Superintendent Good Samaritan Hospital, Portland, Oregon.

OBITUARIES

Dr. R. M. Erwin, Multnomah County coroner since 1932, died July 12 at the age of 56. The cause of death was coronary occlusion. He was a graduate of Chicago College of Medicine and Surgery in 1908.

Dr. David Robinson of Tillamook died July 27 at the age of 66 as a result of a cerebral hemorrhage. He was a graduate of Harvard Medical School and interned at Long Island Hospital in New York. He first practiced in Oregon at Mosier. In 1916 he moved to Tillamook and has been in active practice there since then. Dr. Robinson was always active in his county and state medical society affairs.

Dr. Charles A. Ault of Wallowa County died July 31 at Enterprise at the age of 76. The cause of death was uremia.

Dr. Virgil E. Dudman of Portland died August 6 at the age of 56. The cause of death was subacute bacterial endocarditis. Dr. Dudman was a graduate of Northwestern University, class of 1914, and served his internship at the Chicago Lying-In and Cook County Hospitals. He subsequently became Associate Professor of Hygiene at Northwestern University. He came to Portland in 1922 and limited his practice to obstetrics and gynecology. At the time of his death he was Associate Professor of Obstetrics and Gynecology at University of Oregon Medical School and president of Emanuel Hospital staff.

DANGER OF INHALING STOMACH CONTENTS

One of the most frequent causes of lung complications following operation or in persons in whom the normal protective reflexes of the windpipe and bronchi are impaired is due to the breathing into the lung of regurgitated stomach contents, Ernest E. Irons, M.D., and Carl Wesley Apfelbach, M.D., Chicago, point out in *The Journal of the American Medical Association* for August 24.

The condition is frequently fatal and is called aspiration bronchopneumonia.

A history of hiccupping, retching and nausea, the authors say, is elicited more frequently than vomiting in these pneumonias. This, they explain, may be due to the fact that patients able to vomit vigorously are more often in possession of active reflexes and are better able to expel such foreign material as enters the windpipe. Continuous removal by mechanical suction of the contents of the stomach before operations has reduced the incidence of this form of pneumonia.

IMPLANTS FROM LINING OF WOMB

Two women complaining of what they thought was "stomach trouble" were found to have obstructions of the small intestine caused by a growth of an escaped portion of the mucous membrane lining the womb, Paul M. Glenn, M.D., and John J. Thornton, M.D., Cleveland, report in *The Journal of the American Medical Association* for August 17.

The escape of a portion of the mucous membrane lining of the womb from its normal location and its adhesion to and growth on some other organ of the abdomen is known as endometriosis and is not an uncommon condition. Just how this condition arises has not been determined. The two Cleveland men report their two cases, they say, because the finding of the small intestine being involved in such a condition apparently is rare. Surgical removal of the implant and the portion of the small intestine to which it was attached resulted in recovery.

**WASHINGTON STATE
MEDICAL ASSOCIATION****FIFTY-SECOND ANNUAL
MEETING, SEATTLE, 1941****PROSPECTIVE MILITARY SERVICE**

(Information was sought from the office of the Adjutant General of the Military Department of the State of Washington concerning the demands that would be made on the medical profession, in case Congress passes a Selective Service Bill. The following statement should interest all physicians of the state):

In the event that the Selective Service Bill, now pending in Congress, becomes a law, the members of the medical fraternity will have an important part in its operation. One of the primary bases for classification of the men for military service will be the determination of the physical examination. The general requirements are about the same as have been used by the Army in the past.

Local Boards, numbering 76 in the State of Washington, will have original jurisdiction over the men who have registered. To each one of these boards will be attached an examining physician. He will perform the routine medical examination and such other special tests as may be necessary and are within the scope of his facilities.

Classification, as determined by the physical examination, will range from the physically qualified to the totally disabled and those placed in the deferred group for temporary periods. This serves to indicate the scope and importance of the work of the examining physician.

No matter how well and how thoroughly this work is done, there will be many doubtful cases. Conclusive determination of these cases will require special examinations of the points in question and for this purpose seventeen Medical Advisory Boards have been formed in the state.

The members of these boards will be specialists who have the facilities for making more thorough examinations than those performed by examining physicians. It will not be necessary that the entire board assemble as the individual members who actually make the examination will make their report to the Local Board. In this way, the time to be given will not be burdensome on any particular member of the board.

There will be a small remuneration for examining physicians for the time devoted entirely to work for the Local Board to which they are attached. Funds will be provided to pay laboratory and X-ray examinations when these are deemed necessary by the members of the Medical Advisory Boards.

STATE DEPARTMENT OF HEALTH**MILITARY EXPANSION AND PUBLIC HEALTH**

The proposed great military expansion for National Defense has given rise to problems which are of great importance to everyone connected with the practice of medicine. It is imperative that all physicians recognize these problems and their individual and collective responsibility in dealing with them.

The duties and responsibilities of health departments have been quite clearly defined in an agreement between the Army, Navy, U. S. Health Service and State and Territorial Health Officers relative to protection of the health of mili-

tary forces in the various concentration areas throughout the country. This agreement provides that the State Departments of Health will be responsible for the health of civilians in these areas and for the protection of military personnel from contact with infectious civilians. The military authorities assume a similar responsibility in regard to military personnel. This arrangement is of special importance to the Washington State Department of Health because of the fact that important military concentration areas exist within this state.

The chief problem to be considered in this program is that of venereal disease control, and a great deal of effort has been expended in working out satisfactory procedures in cooperation with military authorities. The plan adopted includes reporting of all venereal disease infections by the Army or Navy to the local health authorities. These cases are made available to health department investigators for interview in order that civilian contacts may be discovered. The Army also maintains in civilian communities prophylactic stations which collect information relative to the soldiers' contacts. This information is then turned over to the health authorities in order that the contacts may be examined. This system has proven quite effective in discovering infectious civilians.

Commercialized prostitution has proven to be one of the major sources of venereal disease among military personnel and the question of how to deal with this problem has arisen. The responsibility of the health department in this regard is quite clearly defined in Sec. 6101 of the Laws of 1919, which states: "It is the duty of local and state health officers to investigate sources of (venereal disease) infection and to assist proper officials in the repression of prostitution." In other words, where prostitution is recognized, it is the responsibility of the health department to assist the police in repressing it. No attempt at regulation by the health department is allowable under this law, even were it desirable.

It is the belief of the State Department of Health that, from the standpoint of venereal disease control, suppression is the only logical solution to the prostitution problem. It seems improbable that any system of regulation through examination can accomplish very much in a class as promiscuous as are prostitutes. This view applies particularly to the control of gonorrhea, where infection is relatively easy to conceal. It is recognized, of course, that complete suppression is impossible, but it is believed that employment of rigid repressive procedures will markedly decrease the availability of prostitutes and as a consequence greatly reduce the number of effective contacts. This will inevitably decrease the incidence of venereal disease infections to an extent which it is doubtful if other measures could approach.

MEDICAL NOTES

HOSPITAL IMPROVEMENTS SHOWN. Mt. Carmel Hospital of Colville held open house July 27 to show the improvements which had been made in the building since March. The entire hospital has been redecorated and refinished.

A new nursery and maternity ward has been installed and a children's ward has been added. The kitchen and lobby were entirely rebuilt.

COUNTY HEALTH OFFICE OPENED. Offices for Jefferson County Health Officer and County Physician have been opened in the basement of the County Court house at Port Townsend. Lawrence E. Foster heads the unit and he will be assisted by two full time nurses and a full time clerk.

PIERCE COUNTY HOSPITAL IMPROVED. Contracts have been let for construction of a new boiler room and laundry at Pierce County Hospital and bids will soon be called for construction of a new wing to the hospital. These improvements were authorized by a three mill levy at the last election.

HEALTH OFFICERS APPOINTED. R. M. deBit has been appointed Health Officer and County Physician of Benton County, succeeding the late L. G. Spaulding.

C. G. Champoux has been appointed acting city-county Health Officer of Yakima County, while Dr. Benner is serving with the National Guard.

Phillip Johnson, associate county physician for Yakima County, has resigned to enter private practice in Yakima.

R. L. Baker of White Salmon has been appointed County Health Officer for Klickitat County.

DIRECTOR OF MEDICAL PREPAREDNESS APPOINTED. R. L. Zech of Seattle, delegate from Washington to the American Medical Association, has been named as chairman of the Medical Preparedness committee of the State of Washington.

LOCATIONS. Ralph M. Smith, who interned at Swedish Hospital last year, has opened offices at Ephrata.

Miles Robinson, formerly of Swarthmore, Pennsylvania, and a graduate of Pennsylvania Medical School, has located in Pasco.

August G. Zoet has opened an office in Lynden. He is a native of Lynden and a graduate of University of Washington and Stanford University Medical School. He received his hospital training at Harborview Hospital in Seattle.

Arnold Tait, graduate of College of Medical Evangelists at Loma Linda, has opened an office in Rosalia. He interned at St. Lukes Hospital in Spokane.

H. B. Stout, graduate of College of Medical Evangelists at Loma Linda, has opened an office in Brewster.

A. W. Mayer, graduate of University of Colorado School of Medicine, has located at Kelso, where he will be associated with A. F. V. Davis.

Thomas E. Canning, who served his internship at Sacred Heart Hospital in Spokane, has located in Colville for practice.

Margaret Henry has arrived in Endicott, where she will practice with her brother, Randolph Henry.

J. M. Meeske, who interned at Swedish Hospital in Seattle, has opened an office in Snohomish.

Three new members have been added to the staff at Eastern State Hospital at Medical Lake. They are Carl H. Jonas, formerly of Cherokee, Iowa; Thomas W. Sugars, formerly of San Francisco, and Irwin Wirth, formerly of Lincoln, Neb.

Joseph Lasby has joined the staff of the Northern Pacific Hospital in Tacoma.

OBITUARIES

DR. SAMUEL MILTON WENDT of Chehalis, Wash. died suddenly at his home August 1, aged 68. He received his medical education at Minneapolis College of Physicians and Surgeons, graduating in 1897. He formerly practiced in Ellensburg and from 1936 to 1938 was Kittitas County Health Officer. He retired and moved to Chehalis two years ago.

DR. CHARLES DANA HUNTER of Tacoma died at his home Monday, August 5. He was 60 years of age. Born in Free-mont, Wis., he received his medical degree from Rush College of Medicine, University of Chicago, in 1905. He practiced in Tacoma for twenty-seven years. During the first World War he served with the Army Medical Corps.

IDAHO STATE
MEDICAL ASSOCIATION



FORTY-EIGHTH ANNUAL
MEETING, SUN VALLEY, SEPT 11-14

MEDICAL NOTES

HOSPITAL DEDICATED. Addition to Mary Secor Hospital at Emmett was dedicated August 15. Open house was held in the afternoon with the dedicatory services being held in the evening. Thomas Mangum of Nampa was guest speaker. The new addition is of reinforced concrete, two stories in height and provides room for twelve patients on the second floor. There is a sun parlor, delivery room and nursery.

HOSPITAL WORK SHOWN. Work of the occupational therapy classes at State Mental Hospital South at Blackfoot was displayed during July at Idaho Falls library. Established the first part of this year, the shop at the hospital provides opportunity for 50-60 patients to do various types of handwork.

NURSES HOLD VENEREAL DISEASE CONFERENCE. Public Health nurses connected with the North Idaho Health Unit held a conference on venereal disease control at Lewiston July 22. Miss Frances Buck, superintendent of nurses at Bannock County Health Unit, conducted the meeting. She recently returned from a four month course under Stokes at Philadelphia.

MOSCOW HOSPITAL DEDICATED. The new community hospital at Moscow was dedicated August 10.

HEALTH FUNDS ANNOUNCED. E. L. Berry, State Director of Health, has announced that Idaho state and city health units are eligible to receive \$9,500,000 from the United States public health service for expansion of medical facilities. These funds are available as grants in aid under provisions of the Social Security Act.

LOCATIONS. J. Robert Mangum has joined the staff at the Nampa clinic. He graduated from Washington University Medical School in 1938 and served the last two years in the St. Louis County Hospital.

Joseph Codd, who completed his internship at Sacred Heart Hospital in Spokane, has located in Wallace.

Ralph Wade, formerly of San Francisco, has joined the staff of the State Hospital North at Orofino.

NORTH IDAHO DISTRICT MEDICAL SOCIETY. Special meeting of North Idaho District Medical Society was held at the Lewis Clarke Hotel in Lewiston, July 25. Meeting was held in order to provide conference with W. D. Hammon of the National Infantile Paralysis Foundation.

BOOK REVIEWS

PRINCIPLES OF SURGICAL CARE, SHOCK AND OTHER PROBLEMS. By Alfred Blalock, M.D., Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tenn. Illustrated. 325 pp. \$4.50. The C. V. Mosby Co., St. Louis, 1940.

This book represents a new epoch in surgical writing. It does not contain technic of surgical operations but the entire aim is to make the patients safe for operation. It begins with general remarks on special problems of surgery in children, the aged and the obese; then discusses anesthesia, principles of wound healing, the effect of heart disease on surgical prognosis, thrombosis, embolism, dehydration, hypoproteinemia and certain postoperative complications.

This is a scholarly masterpiece, reviewing all the experimental work of each subject discussed. The final comments on each subject represent a vast surgical experience and mature surgical judgment. For example, it does not tell a surgeon who can do a gastroenterostomy, how to do a gastric-resection, but it does show how a high mortality rate may be brought down to the minimum. It is the last word in the trend of modern surgical thought.

DAVID METHENY.

ENDOCRINE THERAPY IN GENERAL PRACTICE. By Elmer L. Sevringhaus, M.D., F.A.C.P. Professor of Medicine, University of Wisconsin, etc. Third Edition. 239 pp., \$2.75. The Year Book Publishers, Inc., Chicago, Ill., 1940.

This volume is a concise statement of the information regarding hormones, hormonal influences and available products for therapeutic use, brought up to date. In a field in which rapid progress and extensions in the development of information is the rule, there is a demand for revised and enlarged discussions. This is truly a revised and enlarged discussion of the subject. The only adverse criticism that could be offered is that it does not take up the implication of these factors in the less evident cases, in which a derangement in their concentration serves as a factor. Such discussion, however, could not be encompassed in a volume of this size. This book serves as a necessary foundation for a fuller understanding and a more intelligent use of endocrine products.

C. F. DAVIDSON.

AN ATLAS OF THE COMMONER SKIN DISEASES. With 120 plates reproduced by direct color photography from the living subject. By Henry C. G. Semon, M.A., D. M. Oxon, F.P.C.P., London, physician for diseases of the skin, and lecturer to postgraduates, Royal Northern and Hampstead General Hospital, etc. Second edition. 272 pp. \$12. The Williams & Wilkins Co., Baltimore, 1940.

The epidermis with its component structures is subject to more varied and unusual disease patterns than any organ of the body. Before the eyes of the observer the interesting phenomenon of evolution and involution of dermatologic lesions is visible. By use of photography and the moulage early teachers began recording pathologic changes, thus laying the foundations for the atlas which appeared later.

With the advent of new technique in color photography and standardization of the source of light, a modern book has been produced in considerable contrast to the atlas of a few decades ago.

The purpose of this author is two-fold. First, is to compile and record fine colored photographs of dermatoses most frequently seen in office practice. The original studies have been carefully selected for their teaching worth. These plates are all made from the living subject, a fact for which any author of this type of book may be justly proud. Second, the author has accompanied each disease entity with an outline or discussion of differential diagnosis which is readily accessible with regard to each plate.

The book is produced on high grade heavy paper with diseases listed in alphabetical order wherever possible. To the student seeking help in diagnostic landmarks it offers considerable assistance; in fact, any one interested in dermatology will find it pleasant and refreshing study.

S. T. MERCER.

GRADUATE MEDICAL EDUCATION. A Report of the Commission on Graduate Medical Education. 304 pp. University of Chicago Press, Chicago, 1940.

The Commission on Graduate Medical Education, including twenty educators from leading medical schools, was organized December 4, 1937. Its purpose has been to formulate educational problems and principles involved in continuation of medical training for a period of years after graduation, and the adequate training of specialists. The contents of this volume consist of chapters on internship, residency, postgraduate medical education and specialty boards.

No physician should be satisfied with his present medical knowledge. Postgraduate medical education has grown most rapidly in the past decade, but in twelve states with best obtainable figures, it is reported that only twenty-five per cent of all physicians are taking some form of postgraduate work. This volume gives information on general features of postgraduate education, with specific suggestions as to how it should be developed and maintained. Those interested in graduate medical education should be familiar with this volume.

A METHOD OF ANATOMY. Descriptive and Deductive. By J. C. Boileau Grant, M.C., M.B., Ch. B., F.R.C.S. (Edin), Professor of Anatomy in the University of Toronto. Second Edition. 794 pp., \$6.00. The Williams & Wilkins Company, Baltimore, 1940.

Since knowledge of anatomy is the basis of medical education, any method of acquiring anatomic knowledge commands attention. The purpose of this book is to lead the student to approach this study by correlating facts and studying them in their mutual relationships. It is intended as a working instrument to make anatomy rational and interesting, by which bare unrelated facts tend to disappear in the study of the human body. Numerous illustrations consist entirely of line drawings. Though largely diagram-



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matic, they are based on measurements and observations of carefully dissected material. A book on anatomy based on these principles offers interesting reading readily comprehended, differing from the ordinary memorizing of the dry facts of individual portions of the body studied without relation to adjacent organs. Interest in this volume might well appeal to the experienced practitioner as well as the medical student.

STANDARD METHODS of the Division of Laboratories and Research of the New York State Department of Health. Augustus B. Wadsworth, M.D., Director. Second Edition. 681 pp., \$7.50. The Williams & Wilkins Co., Baltimore, 1940.

In order to include important new material in the space of this one volume, technical details of methods common to the different branches of the work of laboratories of New York State Department of Health are segregated into one section on general laboratory procedures with cross references under the special chapters. Particular mention may be made of the introduction of new quantitative technic in complement-fixation tests, in which quantity of complement is varied instead of the patient's serum. In routine agglutination tests for the identification of bacilli inciting enteric diseases, an incubation period of eighteen to twenty-four hours at 50°C. is employed instead of the shorter time and lower temperature formerly used.

Many more laboratory developments are to be found in the volume. Any physician interested in the laboratory aspects of diagnosis or procedures utilized in public health laboratories will find the reading very interesting. The technical procedures recorded are of special value as a guide to public health laboratory services. **R. H. FLETCHER.**

COMMON CONTAGIOUS DISEASES. By Philip Moen Stimson, A.B., M.D., Assistant Professor of Clinical Pediatrics, Cornell University Medical College, etc. Third Edition, Thoroughly Revised. Illustrated with 54 Engravings and 6 Plates, 4 in Color. 465 pp., \$4.00. Lea & Febiger, Philadelphia, 1940.

This manual presents in sufficient detail a discussion of the contagious diseases encountered by every practitioner. Etiology, pathology, clinical manifestations, prognosis and treatment are outlined for each. Latest information on these diseases is presented, each chapter being followed by an extensive bibliography. Colored illustrations offer vivid pictures of some of the diseases under discussion.

FRANK HOWARD LAHEY. Birthday volume, June First Nineteen Hundred Forty. Charles C. Thomas, Springfield, Illinois, 1940.

This volume comprises a testimonial of appreciation and affection to one of the most distinguished surgeons of the present generation. It contains fifty-one medical and surgical essays on a great variety of subjects, written by more than fifty prominent medical men practicing in cities from the Atlantic to the Pacific. Naturally the majority of these papers deal with surgical conditions, in the treatment of many of which Dr. Lahey has been a prominent exponent. This is a noteworthy tribute to one of the most distinguished members of the profession.

THE POISON TRAIL. By William F. Boos, M.D. 380 pp., \$3.00. Hale, Cushman & Flint, Boston, New York, 1939.

Many obscure and unsolved experiences occur in a long life of medical practice, some tragic, others humorous. The author of this volume has assembled a fascinating group of tales, the title of the book being an account of the first experience. If one is fond of medical mystery stories, he will find satisfaction in this volume.

CIBA SYMPOSIA. Volume I. Ciba Pharmaceutical Products, Inc., Summit, N. J., 1940.

This collection contains twelve numbers, dealing with many interesting archeological and historical medical records. A profusion of illustrations depicts medical knowledge and treatment of antiquity. Here are presented many unique descriptions of forgotten facts and sketches of distinguished practitioners for past centuries. Colonial medicine in America is featured with many interesting incidents.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Fifty-eighth year, 545 pp., \$6.00. The Williams & Wilkins Company, Baltimore, 1940.

Few if any books present such encyclopedic medical information as is found in this volume. With considerable detail it sketches the medical and surgical accomplishments during the past year. These are arranged alphabetically with bold face type for easy identification of headings. Numerous illustrations, some in colors, amplify the text, making this a valuable reference volume.

MANUAL OF DERMATOLOGY. By Carroll S. Wright, B.S., M.D., Professor of Dermatology and Syphilology, Temple University School of Medicine, etc. 376 pp., \$4.00. Blakiston Company, 1940.

This book, written for medical students and general practitioners, presents briefly the facts concerning diseases of the skin which are most commonly observed. The essential facts of etiology, diagnosis and treatment are described which may be sufficient for the consideration of many skin diseases.

MEDICAL NURSING. By Edgar Hull, M.D., F.A.C.P., Clinical Professor of Medicine, Louisiana State University School of Medicine; Christine Wright, R.N., B.S., Instructor of Nursing Arts, Charity Hospital School of Nursing, New Orleans, Louisiana; Ann B. Eyl, B.S., Assistant dietitian, Cook County School of Nursing, Chicago, Illinois. 169 Illustrations including 11 color plates. 588 pp. F. A. Davis Co., Philadelphia, 1940.

The aim of this book is to impart to the nurse a knowledge of the principles of general medicine with information concerning medical treatment, nursing care and dietary management of diseases coming under her care. The contents are presented under fourteen units, each of which is divided into a certain number of chapters. Each unit is devoted to various systems, including diseases occurring under each. Each disease is discussed under headings arranged in clear and simple terms that are readily comprehensible. As a nursing manual this book is to be commended.



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S. M. POINDEXTER, M.D., Boise, Idaho

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EDITORIALS

COMMENTS ON ANNUAL MEETINGS

Many of our state medical associations have adopted programs for their annual meetings modeled largely on those of the American Medical Association which, over years of experience, have acquired an incomparable form of procedure. While the scientific program is the most substantial feature, much attention in recent years has been given to commercial and scientific exhibits, whose importance has increased from year to year. In reality, at the meetings of the national organization these have grown to such magnitude that they attract most attention from visitors. Our three state associations have followed this plan of program with variations adapted to the particular preferences of each.

Members of Washington State Medical Association are particularly golf-minded, to the extent that two days of its Tacoma meeting, August 25-26, were devoted to this all-absorbing sport, ending with a banquet and distribution of prizes. The following meeting at Winthrop Hotel presented the largest collection of commercial exhibits which has ever been assembled, occupying a large portion of the lobby. Unfortunately, the scientific exhibits by members of the Association were assembled in rooms inconveniently accessible, which objectionable feature will be remedied at future meetings.

Various plans for the scientific program have been followed in past years. One extreme was adopted at last year's meeting, when all papers were offered by guest speakers. This year's meeting reversed this procedure, all papers being presented by members of the Association. This program received general commendation, although, as was to be expected, certain critics asserted they would prefer some speakers from other sections of the country. It was notable, however, that a good-sized attentive audience greeted every speaker.

There was a good attendance at this meeting from all cities of the state, and friendliness and good fellowship prevailed. The annual banquet, the

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culminating social feature, eliminated formal addresses aside from official greetings and introductions of visitors. A program by professional entertainers afforded much interest and diversity. It was agreed by all that this was one of the satisfactory and enjoyable gatherings of the Association.

At Eugene, September 4-7, Oregon State Medical Society was delightfully entertained by physicians of the fertile, attractive Willamette Valley. One of the most admirable features of this annual meeting is the seven o'clock breakfast of the House of Delegates which, as usual, was largely attended, all physicians being invited whether or not members of the House. Being thus assembled on four successive days, there was abundant time for reports and discussions without a feeling of haste. This feature of the annual meeting might well be adopted by other state associations which oftentimes have difficulty in arranging suitable House of Delegates meetings.

The daily sessions were held several blocks distant at the Masonic Temple, in the spacious first floor of which commercial exhibits occupied the center space with scientific exhibits arranged along the sides. The front stairway to the second floor lodge room being locked, the only entrance to it was by the back stairway, thus requiring all to pass through the exhibit room. In the middle of the morning and afternoon programs was a recess to visit exhibits, which also was ideal for social contacts. At a suitable time a loud speaker from the upper chamber announced the next number on the program.

Various forms of programs have been followed in past years. At this meeting, papers were presented both by members of the society and four guest speakers, which form of procedure seemed to meet with general approval. Each day luncheon served in the hotel dining room included a round table discussion by one of the four guest speakers. This offered a pleasing personal contact which was quite worthwhile.

The Woman's Auxiliary presented a program replete with interest for the wives who were present in goodly number. Without their support and co-operation there would be a great loss in the effective and successful practice of medicine. At the annual banquet the hospitality of the city was displayed by addresses from the mayor and president of Lane County Medical Society. This being a state university city, an address by the president of the University demonstrated its close association with the medical profession. These annual meetings em-

phasize the united friendliness of the profession of the state, and are of supreme importance in helping to maintain close relations.

Among the many blessings enjoyed by citizens of the state of Idaho is the development at Sun Valley. This resort, built and operated by the Union Pacific Railroad and now internationally famous, is ideal for a medical meeting. Free from the distractions of a large city, with every registrant well removed from minor interruptions due to practice, yet with all the comforts and conveniences of a metropolitan hostelry, it is the perfect location. It is justly popular with the Idaho Association which will return to it for the 1941 meeting.

Speakers at the Idaho meeting were all from the University of Iowa. This plan, utilizing a coordinated team of speakers from one school, was inaugurated by the Idaho association several years ago and since has been copied in other sections. It is an especially effective arrangement, being so well thought of by members of the Idaho Association that nearly half of them attend the annual meeting. The percentage is not approached by any other northwest state.

At the annual banquet the president's address was given by F. M. Cole, a vigorous appeal for sanity in the conduct of national affairs with a strong flavor of conservatism which was enthusiastically applauded by the gathering. Guest speaker of the evening was Chauncy Leake of the University of California who spoke on "Human Engineering," his theme being taken from his experiences and the philosophies developed in teaching an undergraduate course in human relations at the university. The annual smoker, another of the institutions of the Idaho annual meeting, was held on the third evening. It was featured this year by a most elaborate buffet supper with variety of foods sufficient to please the most discriminating gourmet.

REQUIREMENTS OF MEDICAL PREPAREDNESS

Every physician of this country has a personal interest in medical preparedness, the extent of which will be determined by his age and conditions pertaining to his medical surroundings. The September 28 issue of *The Journal of the American Medical Association* published in detail all available information concerning the setup, which everyone is advised to consult as soon as it is available. Herewith are presented some of the particular features which affect the physicians of our section.

A national coordinating committee has been appointed which will act in an advisory capacity, consisting of Irving Abel, chairman, past-president American Medical Association; Surgeons General of the Army, Navy, U. S. Public Health and chairman of the National Research Committee.

The IXth Corps area, including states of the Pacific Coast and the Northwest, have two representatives, John H. O'Shea of Spokane and Charles A. Dukes of Oakland. The representatives of our three states are Charles E. Hunt of Eugene, Oregon; Raymond L. Zech of Seattle, Washington, and J. N. Davis of Twin Falls, Idaho. The state committee for Washington will include R. L. Zech, chairman, Homer D. Dudley, president, Warren B. Penney of Tacoma, past-president, Verne W. Spickard, secretary, of the State Medical Association. For Oregon Charles E. Hunt, chairman, will be assisted by Karl H. Martzloff president and Morris L. Bridgeman, secretary of the State Medical Society. The Idaho committee includes J. N. Davis, chairman, with the presidents and secretaries of the nine county and component societies.

Every physician in Oregon, Washington and Idaho, as well as those in all other states, will come to some extent in contact with medical preparedness, depending on age and conditions concerned with medical practice. It has been announced that 400,000 men will be selected for training during the first year, and their medical care will be entrusted to 8,000 physicians. Medical practitioners, like all other citizens, will be required to register October 16, and the selective draft will determine those between twenty-one and thirty-five years of age who will go into service in addition to those who have volunteered.

Have you answered and returned your questionnaire? These questionnaires were sent to 182,074 physicians, all of whom were expected to return them properly answered. At this date the following figures are given as to returns of the questionnaire from our three states: Oregon with 1438 physicians has returned 790, or 54.9 per cent; Washington with 2188 has returned 1,503, or 68.7 per cent; Idaho with 420 has returned 244, or 58.1 per cent. It is announced that those who have not replied will be contacted in person in order to obtain information. The questionnaire must be completed as of the present date without reference to similar information filed in past years.

At recent meetings of our three state associations the matter of medical preparedness was considered, and each House of Delegates took definite action

to promote their participation in carrying out the plans as presented to each state organization by officials from Washington. Details were given, explaining what was expected from the committee on medical preparedness, describing functions expected of the medical personnel, their relations to the governmental and other agencies, with some details of their special requirements. It is needless to go into these details at this time since they will soon be brought again to the attention of all members of the profession. Also the functions of the state chairmen were published in *The Journal of the American Medical Association* in the issue of August 3, which may be consulted for further details.

There has been much discussion and misunderstandings regarding exemptions from service. It would be impracticable to discuss this matter at present, but full details will be presented in due time. It is understood that each case will be considered on its own merits, so that general specific rules for exemption cannot be described. County societies will be asked to cooperate with the state preparedness committees in collecting neglected questionnaires and in other matters necessary to promote the success of the medical preparedness program. Further details of these plans will be published as they arise.

MEDICAL PUBLICITY

For many years the medical profession has been assailed on account of its secretiveness regarding the practice of medicine. It has been asserted that the public has been kept in ignorance of methods of treatment, objectives in therapy, and that more or less a veil of mystery has been maintained regarding diseases and their management. It has been claimed that one purpose of state medicine has been to give more publicity on medical practice to the general public. Of late much effort has been put forth to instruct the public regarding suppression of prevailing diseases and their curability, as witnessed in the successful efforts for diminishing tuberculosis, cancer, venereal and other diseases, all of which promotes public health and well-being.

We have been informed that the basic purpose of the National Physicians Committee for the Extension of Medical Service has been to enlighten the public regarding the real accomplishments of medical science for the purpose of combating the propaganda for state medicine. A year ago the desire was announced to obtain from the medical profession contributions of \$350,000, a tidy fortune, to carry on the work of this committee. As far as is

generally known, its work has been chiefly extended in publicity by means of page advertisements in the daily press of various states, together with double spread in some national magazines, chiefly emphasizing the information presented in "Priceless Heritage," a compilation of benefits distributed by medical science which should be in the possession of all citizens. While the work of this committee is worthy of commendation, the wide extent and effectiveness of the educational effort may be questioned.

Efforts for public information which are presented intermittently, or perhaps only on one occasion, cannot be expected to produce widespread results. It is the frequent and persistent repetition of facts on any subject which will bring permanent results and attain the purpose desired. And to be most effective, these efforts should be promoted from local sources not too widely scattered. Hence the attempts in various states to impart to the public real information concerning medical science and its accomplishments through the agencies of local medical organizations.

It is generally appreciated that most effective results can be accomplished by use of the radio. While personal information directed to the audience may reach a reasonable number of hearers, their number can be multiplied manifold if addressed through the radio. While in different states there have been various plans initiated to attain these results, that maintained by Washington State Medical Association has been among the most successful. At its recent state meeting a substantial sum was allocated to the radio committee to continue the broadcasting of last year, under which a program was presented Sunday afternoons with hookups in nine cities scattered through the state, originating from King County Hospital. The personnel consisted of a professional announcer, a physician and nurse describing the disease under consideration with contribution by the patient, the aim of which was to inform the public in detail concerning the treatment of a definite disease. The reaction from this broadcasting indicated that the message was widely disseminated, was gratefully received by a large audience, and the commendation was believed to justify the expenditure of time, money and labor. This is only one method used to enlighten the public and attain its good will and confidence in legitimate practice of medicine.



ORIGINAL ARTICLES

ZINC PEROXIDE IN TREATMENT OF SURGICAL INFECTIONS*

JOHN A. GIUS, M.D.

PORTLAND, ORE.

Recent advances in the field of chemotherapeutics of infections have been epoch making. Among these is zinc peroxide which reports^{1, 2, 3, 4} indicate to be a potent drug effective particularly in treatment of the anaerobic and microaerophilic hemolytic streptococcal infections. The conditions which have been satisfactorily treated with zinc peroxide⁵ include chronic undermining burrowing ulcers on all parts of the body due to the microaerophilic hemolytic streptococcus, progressive bacterial synergistic gangrene and gas gangrene after debridement, fusospirochetal infections of the mouth and neck as well as human bites infected with these organisms, chronic ulcerations of the vagina, perirectal abscesses and deep pelvic abscesses, in which anaerobic streptococci play an important part, infections associated with diabetic gangrene⁶ and other malodorous infections.

Zinc peroxide has also been advocated as a prophylactic dressing after debridement of recent accidental wounds, in which the organisms of tetanus or gas gangrene, aerobic hemolytic streptococci or anaerobic hemolytic and nonhemolytic streptococci are likely to be contaminants⁷. The combined use of zinc peroxide and sulfanilamide has been found to be an ideal treatment in many infections⁸.

Recent literature on zinc peroxide concerns the action of this drug in vitro on different aerobic,

*From the Department of Surgery of University of Oregon Medical School and Multnomah County Hospital.

*Read before the Annual Meeting of Alumni Association of University of Oregon Medical School, Portland, Oregon, May 2, 1940.

1. Meleney, F. L.: Zinc Peroxide in Treatment of Micro-Aerophilic and Anaerobic Infections with Special Reference to Group of Chronic, Ulcerative, Burrowing, Nongangrenous Lesions of Abdominal Wall. *Ann. Surg.*, 101:997-1011, April, 1935.

2. Meleney, F. L.: Zinc Peroxide in Surgical Infections. *S. Clin. North America*, 16:691-711, June, 1936.

3. Meleney, F. L. and Johnson, G. A.: Further Laboratory and Clinical Experiences in Treatment of Chronic Undermining Burrowing Ulcers with Zinc Peroxide. *Surg.*, 1:169-221, Feb., 1937.

4. Shallow, T. A.; Fry, K. E. and Pulaski, E. J.: Effect of Zinc Peroxide on Ulcers Due to Micro-Aerophilic Hemolytic Streptococcus. *Surg., Gynec. & Obst.*, 70:987-995, June, 1940.

5. Johnson, G. A. and Meleney, F. L.: Antiseptic and Detoxifying Action of Zinc Peroxide on Certain Surgical Aerobic, Anaerobic and Micro-Aerophilic Bacteria. *Ann. Surg.*, 109:881-991, June, 1939.

6. Meleney, F. L.: Use of Zinc Peroxide in Treatment of Diabetic Gangrene of Lower Extremities. *Surgery*, 6:845-850, Dec., 1939.

7. Meleney, F. L.: Treatment of Traumatic Wounds with Zinc Peroxide. *New York State J. Med.*, 39:2188-2191, Dec. 1, 1939.

8. Meleney, F. L. and Harvey, H. D.: Combined Use of Zinc Peroxide and Sulfanilamide in Treatment of Chronic, Undermining, Burrowing Ulcers Due to Micro-Aerophilic Hemolytic Streptococcus. *Ann. Surg.*, 110:1067-1094, Dec., 1939.

microaerophilic and anaerobic organisms under different conditions. It has been demonstrated that the same organisms which are sensitive to the action of zinc peroxide in vitro are the ones that tend to disappear rapidly from infected wounds treated with zinc peroxide. The exact mechanisms of this antiseptic and detoxifying action of zinc peroxide is not understood but it is suggested that in vitro at least the combined action of the liberated oxygen and hydrogen peroxide is responsible for the beneficial effects of the drug.

It has been demonstrated that the following organisms are relatively resistant to the action of zinc peroxide: *Streptococcus viridans*, *Staphylococcus aureus*, *B. coli*, *B. proteus* and *B. pyocyaneus*. The physical and chemical properties of the drug have been adequately described by others. Suffice it to say, that it is a white powder which is at present manufactured by the DuPont Chemical Co., and is marketed by Mallinkrodt and Merck and Co.

In order to activate and sterilize the material it must be heated to 140° C. for four hours. Meleney has described a simple suspension test to determine the potency of the product. The drug is used in the form of a suspension in sterile distilled water mixed to the consistency of 40 per cent cream. The wound into which the suspension is to be introduced must be mechanically cleaned of dead tissue, debris, exudate, etc., and all extensions of the wound must be laid open in order that the mixture shall reach all recesses. This is an exceedingly important point in securing maximum results with zinc peroxide.

The wound can best be cleaned by irrigation with saline solution or Dakin's solution, followed by water in order to remove the chlorine ion which otherwise combines with the zinc ion to form toxic zinc chloride. When the lesion is clean and all tracts have been opened up, the wound is flooded with the suspension of zinc peroxide. Following this, gauze saturated with the suspension is loosely packed into the wound and the entire area is sealed off with either several layers of vaseline gauze or zinc oxide gauze as advised by Meleney. The dressing is then left in place for twenty-four hours.

After this period the packing will be found to have become somewhat inspissated and the exudate will tend to collect in the dependent portions of the wound. The residue of zinc peroxide and zinc oxide is carefully removed together with the exudate by irrigating with sterile water, and the dressing is repeated until the smears and cultures become negative for the particular organism. During this time it will be noted the granulation tissue has become

very pink and the advancing fringe of epithelium is clearly visible. When this stage is reached, it is safe to change from the zinc peroxide type of dressing to a moist saline dressing for a few days.

If, however, organisms not susceptible to the above therapy persist, other agents can be used. We have found pyocyanus infection particularly resistant, but not especially a deterring factor to the healing process. One per cent acetic acid or Burrow's solution (aluminum acetate, 1:20) dressings are used to combat this organism, and these agents usually result in a relatively clean wound after a week's application.

Following this type of dressing, normal saline dressings are used for three or four days in order to place the wound in the condition for application of small, deep ("pinch") grafts. These are taken in the usual manner and placed carefully over the clean granulating surfaces of the wound. Coarse mesh gauze, held in place by the use of collodion about the periphery, is applied and moist saline gauze dressings are used. Uniform pressure to the entire area is applied by use of Ace bandages. This dressing is not disturbed for four or five days unless the exudate is copious and the dressings become saturated. The donor area is dressed with vaseline gauze and is not disturbed until the tenth or twelfth day. An alternative dressing, which has been found satisfactory in both the recipient and donating areas, is chinisol (oxyquinoline sulphate scarlet R ointment) gauze described and popularized by Bettman.⁹

CASE REPORTS

Case 1.** Dr. R. B., age 28, an interne, was admitted to Multnomah County Hospital June 17, 1939, complaining of nausea, vomiting, headache and chilly sensations. The patient stated that on several occasions from 1928 to 1933 he had several similar episodes and in each instance an abscess had localized either on the back, axillae or in the gluteal regions. After surgical drainage of the lesions they healed only after a prolonged period of treatment. No further information was obtained regarding the bacteriology of the infections.

On examination the temperature was 100.6° F., pulse 110, respiration 20. The only findings were a rather profuse mucopurulent postnasal discharge, and a rather shallow discharging sinus in the right gluteal region. The urine was negative, and the blood showed hemoglobin 88.4 per cent; r.b.c. 4,200,000; w.b.c. 3650; polymorphonuclear leukocytes 35; small lymphocytes 38; monocytes 1; staff cells 12; myelocytes 7; and sedimentation rate of 18 mm. in the first fifteen minutes, and 67 mm. in forty-five minutes. The clinical impression was acute sinusitis and la grippe.

Progress. On the day following admission the temperature spiked to 105.8° but the next day it ranged from 99.6° to 103.0°. The subsequent course was marked by a "picket fence" type of temperature. Blood cultures (four in all) and agglutination tests were consistently negative. At times the patient was irrational and difficult to control.

9. Bettman, A. G.: Simpler Technique for Promoting Epithelialization and Protecting Skin Grafts. J.A.M.A., 97:1879, Dec. 19, 1931.

**From the medical service of Dr. Frank Mount, through whose courtesy this case is reported.

Three days after admission the patient complained of pains in the legs and some muscle tenderness was noted on examination. Later, redness, swelling and tenderness over the right foot and ankle as well as left forearm appeared. The patient was also slightly jaundiced and the icterus index was 35. A culture obtained from a pustule on the right leg showed *Streptococcus hemolyticus*.

Sulfanilamide and small transfusions (direct) were started and hot packs were applied to the involved areas. No improvement was noted while this therapy was being carried out, and the patient seemed to be failing rapidly. On the nineteenth day after admission abscesses which had formed on the right thigh and anterior tibial regions were drained and hot saline compresses were applied to the wounds. Cultures showed *Streptococcus hemolyticus* in pure culture.

For a few days the patient seemed to improve and the temperature maintained a downhill trend. Another abscess appeared on the flexor surface of the left forearm and was drained. This likewise showed *Streptococcus hemolyticus*.

Sulfanilamide seemed to have little or no effect on the progress of the infection and on several occasions extensions of the abscesses into the subcutaneous tissues and

were viable and healing progressed rapidly thereafter (figs. 3, 4).

Case 2. G. T., Russian-born shoemaker, aged 63, was admitted to Multnomah County Hospital October 26, 1936, complaining of a draining ulcer on the right thigh and buttocks. In 1905 the patient had a "boil" near the anus incised and the lesion had never healed. Instead, it had undermined and ulcerated the tissues of the gluteal and posterior thigh region slowly but progressively. On two occasions, in 1928 and 1929, incisions had been made into the lesion but otherwise no treatment had been carried out. The area drained yellowish, foul-smelling pus constantly and the patient was thus virtually incapacitated. His general health was good and the remainder of the history was negative.

On examination temperature, pulse, respiration and blood pressure were normal. The only significant finding was a wide area of raised, indurated partially ulcerated, dull reddish skin over the posterolateral aspect of the right thigh and gluteal area. There were multiple draining sinuses, from which foul yellowish pus exuded. These all seemed to communicate in the widely undermined subcutaneous tissue. Rectal examination, including sigmoidoscopic, was negative.



Figs. 1, 2. Appearance of leg and arm prior to application of zinc peroxide suspension. All recesses have been laid open and wounds have been irrigated with Dakin's solution and saline.

Figs. 3, 4. Appearance of leg and arm after healing had occurred. Photographs taken three weeks after those shown in figs. 1 and 2.

intermuscular septa had to be drained, and necrotic tissue had to be excised. Freshly titrated Dakin's solution introduced into the wound at two-hour intervals did not seem to hold the infection in check. Cultures repeatedly showed the presence of hemolytic streptococci and later *Bacillus pyocyaneus* as well. No strict anaerobes were present (figs. 1, 2).

On September 12 daily zinc peroxide dressings were begun and cultures taken three and seven days later showed only *B. pyocyaneus* and a few staphylococci. The granulations became pink and healthy appearing and the exudate diminished in quantity. Epithelial proliferation was easily visible and the evidences of systemic reaction rapidly cleared. Zinc peroxide was continued for ten days after which aluminum acetate (Burrow's solution, 1:20) were begun to combat the pyocyaneus infection. Following this normal saline dressings were used, and shortly thereafter "small deep grafts" were applied to the forearm and leg. On September 28 it was noted that nearly all the grafts

Blood, urine and serology were normal. Smears of the pus were negative for actinomycosis and tuberculosis. Aerobic cultures showed Gram-positive rods, resembling diphtheroids and *Staphylococcus aureus*. Anaerobic cultures showed anaerobic streptococci. Hemolysis was not determined. Roentgenograms were negative for involvement of the femur or pelvis. Several biopsies of involved tissue showed only chronic and subacute inflammatory changes. A Frei test was negative for lymphogranuloma venereum.

Progress. Following complete study and many consultations, cautery excision of the involved tissue was carried out and zinc peroxide dressings were started. The excision, however, was not sufficiently radical, and it was impossible to secure immediate contact of the drug with each portion of the wound. Progress was slow and on December 27 a wider excision was performed, followed by application of zinc peroxide suspension for four days. Dakin's solution was then applied for a short time to aid in removal of the necrotic tissue.

After this the patient was discharged to the outpatient clinic for further care until the area was ready for grafting. In the clinic, 1 per cent acetic acid and subsequently chinosol gauze dressings were applied. On February 8, 1940, the patient was readmitted to the hospital, and after application of saline dressings small deep grafts were placed over the area. About 90 per cent of the grafts "took" and the area gradually became completely epithelialized. A relatively small area of tissue resembling that removed remains on the medial side of the right buttock, and it is probable that this may need subsequent excision (fig. 5).

Case 3. M. L., housewife, age 58. The patient was admitted to Multnomah County Hospital November 16, 1939, for repair of a postoperative ventral hernia. On November 21 a fascial repair was carried out. It was noted at the time that the size of the hernia and tension resulting from closure made the outlook poor for satisfactory result. On the tenth postoperative day the patient had a temperature of 103.0°, and there was evidence of wound infection. At first a thin and later a thick purulent discharge drained from the wound. Cultures were aerobic: *Staphylococcus aureus*; anaerobic: Gram-positive cocci in short chains. Blood culture, negative. Blood count showed a moderate leukocytosis and marked anemia. The sedimentation rate was 70 mm. in the first 15 minutes and 122 mm. in 45 minutes.



Fig. 5. Appearance of wound on hip and gluteal area after healing had occurred. Note extent of lesion and presence of some remaining thickening on medial side. The dark area is due to "chinosol" ointment.

The wound was opened widely and hot packs were applied. Multiple transfusions were given. In spite of this treatment the patient grew progressively more toxic and the infection seemed to be extending. Sulfanilamide appeared to be of no value in combatting the infection.

On December 28 the skin flaps were laid back widely and zinc peroxide dressings were applied. Subsequently counterdrainage was required but following this the discharge cleared, the skin flaps sealed down and healing occurred. When last seen there was some weakness at the lower end of the scar, indicating that recurrence of the hernia is likely.

Case 4. E. T., student, aged 19, seen December 7, 1938 at the request of Dr. R. C. Sparks, by whose courtesy this case is reported. The patient complained of a persistent foul vaginal discharge apparently from a pelvic abscess. She was well until May 19, 1938, at which time she developed lower abdominal pain and tenderness and was thought to have pelvic inflammatory disease. Colpotomy was performed nine days later and about a pint of odorless pus was obtained. This showed pure streptococci (type not determined). Subsequently drainage continued to ap-

pear through the colpotomy tube and the patient had recurrent bouts of fever, leukocytosis and transient ileus. Sulfanilamide was administered with slight improvement. Cultures November 28 showed anaerobic gas producing organisms identified as anaerobic hemolytic streptococci.

On December 24 a right broad ligament abscess was drained. On January 13, 1939 a laparotomy was attempted but because of poor condition of the patient drainage of an abscess near the umbilicus was instituted and the procedure was terminated. On February 20 the appendix, which was found to be bound down with adhesions, was removed and the patient made a slow but satisfactory recovery. On May 8 the old colpotomy wound began to drain foul pus which showed *Bacillus coli* and anaerobic hemolytic streptococci. A drainage tube was inserted at this time and changed several times subsequently.

This discharge continued until December 7, when the drainage tube was removed and a zinc peroxide suspension was carefully injected into the abscess through a catheter. Vaseline gauze was loosely packed into the vagina, and the patient was kept in the Trendelenburg position. The following day the discharge appeared to be less. The cavity was irrigated with water and zinc peroxide was again instilled. On the third day there was an appreciable diminu-



Fig. 6. Roentgenogram of abdomen showing diffusion of zinc peroxide into peritoneal cavity, particularly along left lumbar region.

tion in the quantity and odor of the discharge. Slight pain occurred on insertion of the catheter and immediately after injection of 10 to 15 cc. of the suspension marked diffuse abdominal pain, evidences of shock and diffuse peritonitis were noted. The patient was hospitalized and roentgenogram of the abdomen showed diffuse dissemination of the radioopaque zinc peroxide (fig. 6). Multiple gallstones were an incidental finding.

The patient ran a very septic course and required multiple transfusions, drainage of the cul de sac and even paracentesis of the abdomen during the following month. She gradually gained weight and strength and the vaginal discharge ceased March 9, 1940. At the present time she seems perfectly well.

SUMMARY AND CONCLUSIONS

The value of zinc peroxide in treatment and prophylaxis of surgical infections should be kept in mind. Its use in conjunction with sulphanilamide or related compounds forms an ideal therapeutic combination in many cases. Those infections due

to the anaerobic or microaerophilic hemolytic streptococcus are particularly responsive to zinc peroxide therapy, but in addition a large number of cases of undermining infections, due to various other anaerobic and aerobic organisms, have been successfully treated with this drug. It is of prime importance to make certain that all portions of involved tissue be exposed to the action of the drug. Mechanical and surgical cleansing of the wounds are details which mean the difference between success and failure in the use of zinc peroxide. Likewise, the necessity for sterile technic and avoidance of reinfection in caring for these wounds cannot be overemphasized.

Four cases in which zinc peroxide therapy was carried out are reported. In three of these the infection was localized to the parietes and results of treatment were good. In the fourth case the infection was confined to the pelvis and zinc peroxide could be introduced only by injection through the colpotomy wound. During this procedure the zinc peroxide suspension passed through the wall of the abscess and into the general peritoneal cavity, resulting in a diffuse peritonitis. Fortunately, the patient recovered and has apparently been cured of her infection. This illustrates the hazards of introducing zinc peroxide or any similar material into a closed cavity, the confines of which cannot be definitely ascertained.

OBSTRUCTIVE JAUNDICE

ITS SURGICAL CONSIDERATION*

VERNE C. HUNT, M.D.

LOS ANGELES, CALIF.

Because of the progress which has been made during recent years in solving the many problems pertaining to disease of the biliary tract, it becomes necessary to revise many ideas which have heretofore formed the basis for policies of management, particularly so in those cases of biliary disease characterized by obstructive jaundice. Application of modern methods has materially enhanced the accuracy of diagnosis. At the same time institution of methods of preoperative preparation, tending to stabilize and bring under accurate control certain lethal factors previously inadequately controlled, has served to increase the safety with which, if need be, operations of considerable magnitude may be carried out upon the biliary tract.

In a general way it has been known for many years that disturbances in the biliary apparatus materially influence the liver. However, it was only during the past decade or thereabouts that there

was developed a very clear understanding of the various processes which constitute a disturbance of the hepatic functions. For many years surgeons have recognized that deep, prolonged jaundice presents distinct hazards to surgical procedures upon the biliary tract, and they also have recognized certain manifestations resulting from obstructive jaundice which they were unable either to adequately explain or successfully combat. Halsted was one of the first to direct attention to the danger and the high mortality rate attending operations upon the biliary tract in the presence of deep, prolonged obstructive jaundice, and where at operation the content of the gallbladder and bile ducts was a colorless, thin, watery material, entirely devoid of bile pigment. Likewise, for many years surgeons have been concerned with the operative and postoperative hemorrhagic tendency in patients with prolonged obstructive jaundice.

Investigative work during recent years has contributed much to a better understanding of the normal functions of the liver and of the alterations in its functional activity in the presence of pathologic conditions or states, in which it is either directly or indirectly involved. While a great deal has evolved which has been of purely scientific interest, much of the knowledge which has accrued from studies of physiologists in particular has become of immeasurable value in its practical application, and certain relative tests of liver function and important preoperative therapeutic procedures have also developed.

The work of Mann and his coworkers and others in establishing the power of regeneration of the liver has been of more than scientific interest. Not entirely independent of the regenerative power of the liver has been the frequent clinical observation of its great recuperative power, following the relief of prolonged, obstructive jaundice, with resultant marked diminution in its size from that of a large hypertrophic type of biliary cirrhosis with marked hepatic insufficiency to approximately its normal size, and to one in which restoration of clinically normal hepatic function has occurred.

While the liver may undergo marked changes incident to and due to clinically uncomplicated biliary tract disease, one has little reason to suspect much hepatic injury in disease of the biliary tract until jaundice becomes prominently manifest. With the onset of jaundice, involvement of the extrahepatic bile ducts by disease is immediately suspected. In general, it may be stated that jaundice justly infers hepatic involvement, whether the jaundice is of the obstructive or nonobstructive type. There are cer-

*Read at the annual meeting of Spokane Surgical Society, Spokane, Wash., April 27, 1940.

tain cases of nonobstructive jaundice, where the degree of hepatic injury and resultant insufficiency of function are extremely marked. For purposes of this discussion only obstructive jaundice will be considered.

HEMORRHAGIC TENDENCY

A number of conditions are of major importance to the surgeon in treatment of the various obstructing lesions of the extrahepatic ducts. Among them are hepatic insufficiency and disturbances which occur in the blood and result in a hemorrhagic tendency. A major function of the liver and one upon which the relative safety of operations upon the biliary tract depends is that of carbohydrate metabolism which, so far as is known, is not shared by any other organ or structure in the body. Without entering at this time into a discussion of the evidence, it is well known that the role of the liver in carbohydrate metabolism and in maintenance of blood sugar levels is necessary to life. It is likewise well known that the glycogen store, although not entirely confined to the liver, is depleted through disturbance of carbohydrate metabolism, when true obstructive jaundice exists. Even though no methods are at hand which may serve in even approximately estimating the degree of depletion of the glycogen reserve, experience by this time has proved that preoperative administration of large amounts of carbohydrate by mouth and intravenous use of glucose for several days serve to restore the glycogen reserve of the liver sufficiently, so that carbohydrate metabolism may be maintained with a minimum disturbance, at least insofar as operation is concerned.

The hemorrhagic tendency in the jaundiced patient has been a complex problem which until the past five years has resisted solution. Intensive investigation of changes which occur in certain elements of the blood and their relation to coagulation in cases of prolonged obstructive jaundice has been indulged in by many. Belief that the coagulation and bleeding time of the blood are materially prolonged in many cases of jaundice has led to the conclusion that the tendency to operative and post-operative bleeding does not exist, if the coagulation and bleeding time are within normal limits. Numerous instances have proved that normal coagulation and normal bleeding time in obstructive jaundice do not necessarily eliminate from consideration the hemorrhagic tendency.

Much of the therapy instituted in the past in an endeavor to eliminate, or at least to combat the hemorrhagic tendency, has been directed toward restoring deficiencies in the clotting elements, even

though no deficiency in any element entering into formation of the clot has been proved prior to about 1935. The work of Carr and Foote, as recently as 1934, carried out on a series of patients with obstructive jaundice and in the experimental animal, tended to support the generally held opinion that no significant variation in the amounts of the formed clotting elements of the blood occurred in the jaundiced patient. They concluded that error in clotting is due to an additional product which inhibits the process or interferes with the clotting mechanism rather than to an insufficient amount of any of the elements contributing to the normal clotting complex. They emphasized the observation that in obstructive jaundice the coagulation time may not be prolonged, that the bleeding tendency exists because of the formation of the clot as influenced by an inhibitory product, not as a strong type of occluding clot which retracts and efficiently prevents the escape of blood, but as the formation of a porous, nonretractile, friable gel of poor consistency which is not capable of obstructing the flow of blood and plasma, and through which both cells and plasma pass slowly.

Cysteine, a protein product observed by Mueller and Sturgis to be an anticoagulant, and known to accumulate in excessive amounts in the blood in obstructive jaundice, possesses the ability, according to Carr and Foote, to influence the plasma and clotting elements to the formation of a faulty or leaky clot. Furthermore, these authors stated that they eliminated the bleeding tendency in obstructive jaundice in the experimental animal through reduction of the amount of circulating cysteine by administration of brombenzene.

It is now generally agreed that accumulation of any known component of bile or any other substance in the blood does not account for the hemorrhagic tendency in jaundiced patients. Neither can the hemorrhagic diathesis be attributed to a deficiency in calcium, fibrinogen or thromboplastic substances. However, Dam and his associates, Quick and others have by this time proved conclusively that the hemorrhagic tendency associated with obstructive jaundice depends upon a deficiency of plasma prothrombin. What prothrombin actually is no one as yet knows. Patek and Taylor prefer to regard it as a physiologic complex rather than a single chemical substance. The early work of Dam and his associates demonstrated that, if chicks are fed diets deficient in certain substances, a fatal hemorrhagic state will occur, and the blood of these chicks is deficient in prothrombin, but if the chicks are given a diet which includes certain vitamin con-

taining sterols, including vitamin K, the prothrombin content of the blood is elevated and the hemorrhagic tendency is controlled. They showed that vitamin K is present in the prothrombin of the normal chick, but is absent or inactive in the prothrombin of the chick in which the hemorrhagic state exists.

Even though the early observations of Dam and his associates were made in 1934, which aroused the interests of others, it was not until 1938 that the hemorrhagic tendency in human beings with obstructive jaundice was suspected of having something to do with a possible prothrombin deficiency in the blood. During the past two years interest in this phase of the problem in obstructive jaundice has been intense and the hemorrhagic diathesis in jaundiced patients has for the first time been brought under complete control.

As has been previously stated, the usual methods of determining the coagulation and bleeding time have been far from satisfactory, at least in obstructive jaundice, and have served with little reliability regarding the tendency of the jaundiced patient to bleed. Determination of the bleeding time by the method of Ivy, which consists of placing a sphygmomanometer cuff on the arm and raising the pressure to 40 mm. of mercury and removing blood from a puncture in an area in which venous and capillary stasis have thus been produced, has proved more reliable than the methods usually employed in obtaining bleeding time. It is well known that a simple clotting test is not a true index of the hemorrhagic tendency in jaundice.

Several methods have been devised for the purpose of determining the prothrombin deficiency in the blood. The first of these, a qualitative test, was devised in 1935 by Quick and his coworkers, and has to do with the prothrombin clotting time. A normal prothrombin time of 20 to 22 seconds was established. A clotting time of 45 seconds indicates a potential bleeder. In 1936, Warner, Brinkhous and Smith described a method whereby the concentration of prothrombin is measured quantitatively, and the prothrombin level is determined. Smith, Ziffern, Owen and Hoffmann, in July, 1939, submitted a simplified test of vitamin K deficiency, and it is similar to the method of Quick in that it is a presumptive measure of the amount of prothrombin present in the blood. By its use and employing normal blood as the control, the ratio expressed in percentage of normal indicates the clotting activity and provides a practical measure of the tendency to bleed. Experience has proved that bleeding commonly occurs when the test gives

values of 40 per cent or less, and that values of 40 to 70 per cent are definitely in the danger zone. In our own work and for our purposes, we have found the latter method highly practical and trustworthy.

Question no longer exists that vitamin K deficiency results in diminished prothrombin in the blood and that vitamin K therapy is specific for those hemorrhagic tendencies due to a low prothrombin level. Bile or bile salts are essential for absorption of vitamin K from the intestinal mucosa. Butt has emphasized two factors concerned with physiologic activity of vitamin K: (1) a normal or nearly normal intestinal surface is needed for its absorption, and (2) the liver must be physiologically capable of forming prothrombin from the antihemorrhagic vitamin.

Since a specific remedy for the hemorrhagic tendency in obstructive jaundice is at hand, it is essential that vitamin K concentrate and either bile or bile salts be administered preoperatively in sufficient dosage and for a sufficient time to bring the prothrombin time to well within normal limits. In order that the prothrombin time shall be maintained throughout the postoperative period of declining jaundice, it is essential that administration of the vitamin and bile be continued for at least ten days. Guidance as to dosage and duration of the postoperative use of the vitamin K and bile therapy is obtained through frequent, if not daily, determinations of the prothrombin time. During the preoperative period, while the level of the prothrombin content of the blood is being elevated to within normal limits, improvement in the general condition of the patient can be materially enhanced and risk of the surgical procedure thereby greatly reduced through restoration of the glycogen reserve of the liver by a high carbohydrate diet and intravenous administration of glucose, and through restoration of the blood volume by transfusion. Employment of the various preoperative procedures now at hand has greatly increased the safety of all operations upon the biliary tract and has served to eliminate the hazards which heretofore have contributed so largely to the mortality.

SURGICAL CONSIDERATIONS

Experience has proved that in the absence of true contraindications practically all cases of obstructive jaundice should be surgically explored after adequate preoperative measures have been instituted, and directed particularly to restoration of the glycogen reserve of the liver and control of the hemorrhagic tendency. In applying such a general rule, difficulty is not infrequently encountered

in differentiating nonobstructive jaundice due to intrahepatic disease from jaundice resulting from intrinsic extrahepatic ductal disease. A careful appraisal of clinical manifestations and laboratory aids usually results in accurate differentiation. One should remain mindful of the fact that an intrinsic extrahepatic ductal lesion may exist with consequent incomplete obstruction to the flow of bile, and even though the lesion is obstructive, the degree of jaundice is not commensurate with complete obstruction.

Many still persist in assuming that, if the jaundice is preceded by pain, obstruction is due to stone, and that a so-called painless jaundice is the result of an obstructing malignant lesion of the head of the pancreas. Were all stones in the common duct clinically manifested by pain and jaundice and were all instances of carcinoma of the head of the pancreas characterized clinically by painless jaundice, some justification might be found for the assumption. While it is well known that stone in the common duct is most frequently the cause of obstructive jaundice, a considerable percentage of cases of calculous obstruction of the common duct are not clinically characterized by biliary colic or by pain of greater severity than that frequently experienced by patients in whom neoplastic obstructive jaundice has occurred. We have on a number of occasions found one or more large stones in the common duct producing obstructive jaundice, when the preoperative diagnosis of neoplastic obstruction of the common duct was strongly supported by clinical manifestations. Conversely, the severity and the character of the pain in neoplastic or noncalculous obstructive jaundice have on a number of occasions caused us to make a preoperative diagnosis of common duct stone.

Courvoisier's law has retained its value in differentiating between obstructive jaundice due to stone and that due to neoplastic disease in a large percentage of cases, but calculous disease of the gallbladder, associated with neoplastic involvement of the terminal portion of the common duct, not infrequently interferes with the processes upon which the law is founded. Most disconcerting are those instances in which at necropsy the findings are those of calculous obstructive jaundice instead of those of carcinoma of the head of the pancreas in accordance with the clinical diagnosis and in which an opportunity for surgical exploration was not afforded.

Calculous disease in the extrahepatic bile ducts occurs much more frequently than has been generally believed in the past. Crump demonstrated

in 1,000 autopsies that stones were present in either the hepatic or common ducts in 21 per cent of the cases of calculous disease of the gallbladder. Clute and Swinton have stated that common and hepatic duct stones were found in from 17 to 21 per cent of the cases which had been operated upon for gallstone disease at the Lahey Clinic. My own experience during recent years has been quite the same. In a review of my own cases of calculous disease operated upon during the past five years, the common duct has been opened in 42 per cent of the cases, and stones were removed in nearly half of those or 19 per cent of the cases. It is of interest to note that, while stone is the most frequent cause of obstruction of the common duct, jaundice had not been present at any time in approximately 25 per cent of the cases of hepatic or common duct stone. Recognition of the frequency with which stones are known to exist in the common or hepatic ducts in association with calculous disease of the gallbladder justifies, in the absence of distinct contraindications, incision of the common duct and exploration of its interior in not only those cases in which stones can be palpated in the common and hepatic ducts, but in those cases in which one or more stones are impacted in the cystic duct at its junction with the common duct, as well as in all cases in which an antecedent history of jaundice has existed or in which jaundice is present at the time of operation, and in all cases in which undue dilatation of the common duct is observed.

Among the causes of obstructive jaundice, chronic pancreatitis at times presents many problems. Unquestionably this condition is responsible for symptoms which persist at times following operations upon the biliary tract. Diagnosis is frequently perplexing and usually is not suggested until a degree of jaundice becomes manifest. In many cases chronic pancreatitis is amenable to surgical drainage of the common duct over a period of from one to two months.

Stricture of the common or hepatic ducts is usually manifested by complete obstructive jaundice with resultant marked hepatic injury and disturbance of the various hepatic functions. Stricture of the extrahepatic ducts rarely is encountered as a congenital process, and inflammatory stricture resulting from an obliterative cholangitis occurs with relative infrequency. A postoperative stricture resulting from division of the common or hepatic duct, excision of a segment of the duct, or its inclusion in a suture or ligature incident to cholecystectomy provides a situation, prevention of which is facilitated only through an intimate knowl-

edge of the anomalies of the ductal and vascular structures and the variations within the range of normal, because these structures may vary in their anatomic relationships in the presence of intra- and extrabiliary tract disease. The results of operation for postoperative stricture of the ducts are dependent upon many factors. In general, surgical procedures are difficult to perform, immediate risk of surgical reconstructive procedures is great at best and the prospect of an entirely satisfactory result is none too bright.

Operability of primary carcinoma of the extrahepatic ducts has not been great, and the mortality rate of radical removal of such lesions has been high. Future exception to this statement may be entirely justified for neoplastic lesions primary in the distal end of the common duct or in the periampullary portion of the duodenum. Lesions in this particular area have intrigued the interest of a few during recent years and their contributions have afforded a degree of optimism.

I should like to emphasize the fact that through no known method may a clinical diagnosis of carcinoma of the head of the pancreas be made with certainty. Inasmuch as a fair degree of operability has been established for periampullary neoplastic disease, the necessity for surgical exploration in all cases of suspected neoplastic obstruction of the terminal portion of the common duct is in order, and seldom if ever should a conclusive diagnosis of carcinoma of the head of the pancreas be made without first removing representative tissue for microscopic study. No one may rely with accuracy upon the findings as may be obtained through manual palpation of the head of the pancreas. Through mobilization of the duodenum either mesially or laterally a representative specimen of a suspected pancreatic lesion may be obtained. It has been my policy to obtain such a specimen in each case that I have explored and I have succeeded in establishing the diagnosis of carcinoma of the head of the pancreas through biopsy during recent years. Such painstaking procedures for purposes of determining exactly the nature of the obstruction at the distal end of the common duct have rewarded me during the past five years with three cases of primary carcinoma of the ampulla of Vater or of the periampullary portion of the duodenum.

Problems still remain in the successful management of obstructive jaundice. However, through the utilization of all that we now have in hand the patient with obstructive jaundice may submit to surgical procedures, at least for benign disease, with a degree of safety far greater than heretofore.

RELAPSING FEVER

MAX W. HEMINGWAY, M.D.

ROBERT W. HEMINGWAY, M.D.

VALBORG K. ARNESON, M.T.

BEND, ORE.

Relapsing fever is not a new disease, but its appearance in central Oregon is of interest because its existence has not previously been reported. Possibly its rarity is due to failure in diagnosis and for that reason this report is submitted.

Reynolds¹ gives a brief but excellent review of the history and incidence of this malady. The spirochete of the genus *treponema*, to which different names have been given in different parts of the world, is the cause of relapsing fever. It appears that there is a cyclic development of the spirochete in the tissues of the tick, louse and bedbug, comparable to that observed in man. Experimental studies indicate that in the tick the spirochete undergoes a metamorphosis into granules. These granules are taken up by the cells of the tick and develop into spirochetes. A feature is the transmission of the parasite to the progeny of the insect through the egg for generations. The spirochete finds access to the human from the coxal fluid of the tick during the act of feeding. In the case of the louse the spirochete is freed from the body of the vector by crushing and it is thought that the spirochete may even enter the unbroken skin.

It appears from the literature by Graham², Gillespie³, Weller, Burford and Graham⁴ that the vector was proved to be the tick of the genus *Ornithodoros*. Davis⁵ states the reservoir hosts supply the ticks of the genus *ornithodoros* and that there are six species: *O. turicata*, *hermsi*, *talaje*, *parkeri*, *coriaceus* and *coprophilus*. He includes in his paper a list of the states in which these species have been found. In Europe the genus *Pedulus humani*, var. *corporis* and *capitis* are responsible for the spread. The bedbug is also said to be a vector.

CASE REPORT

A high school white boy, age sixteen years, was first seen May 31, 1940, with the following history. The evening before he had eaten a hearty meal and at the close of dinner complained of feeling warm. Next morning he had severe chills which were followed by fever, recorded by his mother as 104°.

His past history was of no importance. He was born in Aberdeen, Washington, and resided there until July, 1939, when he moved to Bend, Oregon. His health had always

1. Reynolds, F. C.: Relapsing Fever: Comments on its Incidence in Nevada. *California & West. Med.*, 47:170-174, Sept., 1937.

2. Graham, M.: Relapsing Fever Endemic in Texas. *Texas State J. Med.*, 27:226-228, July, 1931.

3. Gillespie, J. O.: Relapsing Fever in United States. *J. A. M. A.*, 104:1878-1881, May 25, 1935.

4. Weller, B. and Graham, G. N.: Relapsing Fever in Central Texas. *J. A. M. A.*, 95:1834-1835, Dec. 13, 1930.

5. Davis, G. E.: U. S. Pub. Health Lab., Hamilton, Mont. Personal Communication.



Fig. 1. Temperature chart of relapsing fever.

been good. To his knowledge he had not been bitten by any ticks, lice or bedbugs. He made his home with his foster parents who reside on a small ranch. The home was above reproach in matters of cleanliness and the parents were intelligent and cooperative.

His only complaints were fever, headache, and some nausea and vomiting. Physical examination showed a well developed youth. With exception of his temperature which was 104°, he was entirely devoid of physical findings. He was given analgesics and the mother instructed to inform us as to his progress. His temperature (fig. 1) continued high until June 3, when it subsided and other than feeling somewhat weak he was quite normal.

He was permitted to be up and about until June 8, when he again had chills and his temperature rapidly became elevated. He was seen on June 9 and other than the general discomfort of his fever he had no complaints. On examina-

evidence of weight loss. On June 14, he experienced another chill and his fever rapidly rose to about 102° and continued until the evening of June 15, when it subsided.

Appreciating that a diagnosis was yet to be established, the causes of various fevers were reviewed, and from his clinical course relapsing fever seemed the most likely. The spirochetes of relapsing fever are found in the peripheral blood in the greatest numbers during the height of the fever. No treatment was given and, when on June 19 he had another severe paroxysm, oxalated blood was obtained and on examination (by V.K.A.) spirochetes were found on the stained blood films (fig. 3). Fresh blood was examined after being kept in refrigeration but the spirochetes were not found. due, perhaps, to the chilling or our inexperience in this type of examination.

June 20 he was given 0.1 gm. neoarsphenamine intravenously. His temperature subsided, but the next day reappeared and a second dose of 0.1 gm. was given intravenously.

	June 9	June 10	June 15	June 19	June 27
Hemoglobin				88% S	89% S
Red cells				4,350,000	4,800,000
White cells	8,400	7,800	6,000	8,800	11,000
Polymorphonuclear..	54%	89%		62%	
Lymphocytes l.	2%	11%		2%	
Lymphocytes s.	43%			36%	
Sedimentation 15"....	3 mm.			5 mm.	
Rate—	45"	82 mm.		70 mm.	
	60"	95 mm.		90 mm.	
Agglutination tests					
Typhoid H		Neg.			1/80
Typhoid O		Neg.			1/40
Para A		Neg.			Neg.
Para B		Neg.			Neg.
Brucella		Neg.			Neg.
Kahn		Neg.			
Blood culture		Neg.			
Malaria	Neg.	Neg.	Neg.	Neg.	
Spirochetes of relapsing fever.....				Present	

Fig. 2. Laboratory record of relapsing fever.

tion he was found to have enlarged and slightly tender lymph glands in the cervical, axillary, inguinal and epitrochlear regions.

Again, other than the lymph glands he was devoid of findings. Urine was negative except for slight amounts of acetone. His labroatory studies are grouped together (fig. 2) His temperature continued until June 11, when it rapidly returned to normal and again, other than a feeling of weakness, he felt quite his usual self. At this time there was

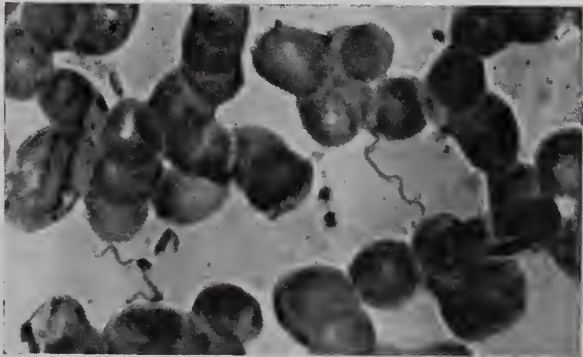


Fig. 3. Spirochetes from blood specimen.

His lymph glands returned to normal within a few days and to date there has been no recurrence of his temperature. At the present time he has regained his former weight and is objectively and subjectively well.

DISCUSSION

Prior to 1930 relapsing fever was practically unknown in the United States except for a few sporadic cases in Colorado and California. Gillespie believes the disease is endemic throughout the southern half of the United States.. Waring likewise

called attention to the endemic nature of the disease in Colorado. At present, to our knowledge, there are no recorded cases arising in central Oregon. In retrospect we are quite confident that we have seen two other cases in the past eighteen months. Although we did not search for spirochete, the clinical course of these patients was quite in keeping with relapsing fever.

It is known that these patients will have recurring paroxysms, each succeeding attack, however, becoming milder until there is finally a subsidence altogether. Interestingly enough these patients develop some degree of immunity against reinfection. With the ease of modern transportation this disease will become more widespread wherever there are ticks of the genus *ornithodoros*.

Diagnosis of relapsing fever is suggested by the temperature curve. Darkfield examination, stained blood films or examination of a fresh drop of blood taken at the height of the fever will reveal the spirochete in most instances.

In differential diagnosis malaria may be most easily confused, though differentiation of typhoid, typhus, undulant and dengue fever must be considered. Rat bite fever can be differentiated only by demonstrating a spirochete quite different morphologically from *Borrelia recurrentis*. It is reported that a transitory Wassermann reaction is positive in a small percentage of cases.

In treatment the arsenicals have been termed specific. Interestingly enough Parker⁶ and Tidy⁷ have reported failures with arsenicals. Since the greatest number of spirochetes are present in the peripheral blood at the height of the paroxysm, it has been suggested that small doses of arsenic be given intravenously at that time, and in a few days the dose repeated. In our case this method was quite satisfactory.

CONCLUSIONS

1. A case of relapsing fever is reported which had its origin in central Oregon.
2. Wherever the tick of the genus *ornithodoros* is present, the possibility of relapsing fever must be kept in mind.
3. We feel that by keeping the disease in mind and availing ourselves of simple laboratory procedures the diagnosis can easily be established and the incidence of the disease will probably be seen to increase.

4. Intravenous neoarsphenamine in our limited experience proved quite successful.

6. Parker, R. R.: U. S. Pub. Health Lab., Hamilton, Mont. Personal Communication.

7. Tidy, H. L.: *A Synopsis of Medicine*. Williams and Wilkins, Baltimore, 1939.

TREATMENT WITH VITAMINS*

DWIGHT L. WILBUR, M. D.

SAN FRANCISCO, CALIF.

(CONTINUED)

PELLAGRA

The treatment of pellagra, in brief, consists of the previously noted therapeutic diet, (table 3), (for patients with severe stomatitis a liquid diet composed of substances containing large amounts of vitamin B may be given), supplements of dried brewers yeast or wheat germ in doses of 20 to 60 gm. three times daily and of nicotinic acid in 50 mg. doses at hourly intervals for ten doses. For patients with associated peripheral neuritis supplements of thiamin chloride in doses of 10 to 20 mg. orally or parenterally each day is advisable. Symptomatic treatment in the form of bed rest, sedatives, and wet applications of solution of potassium permanganate (1:5000) to the cutaneous lesions frequently are helpful. As recovery occurs the treatment gradually may be modified to that for states of mild deficiency of vitamin B.

VITAMIN C, SCURVY

In treatment of vitamin C deficiency or scurvy the therapeutic diet should be supplemented with large amounts of foods rich in vitamin C, namely, citrus fruit juices, fresh and canned tomatoes and tomato juice, cabbage and fresh fruits and vegetables. Early in the course of treatment it may be possible to administer liquids only because of soreness of the gums. Fresh orange juice contains on an average of 40 to 60 mg. of vitamin C for each 100 cc. The diet should be supplemented with vitamin C in crystalline form administered orally or intravenously in doses of 300 to 1000 mg., divided in smaller doses during the twenty-four hour period. Since the average adult probably is saturated with the vitamin when 2000 to 3000 mg. of vitamin C is administered within a few days, there is little advantage in giving doses larger than this. For infants and children saturation doses are proportionally smaller. Healing begins very rapidly and the dose of vitamin C gradually may be reduced as the patient recovers. Occasional cases of scurvy have been reported, in which response to therapy occurred only when the vitamin was given in the natural form in foods, and in very occasional cases the disease has been cured only when the vitamin has been administered intravenously.

VITAMIN D, RICKETS, INFANTILE TETANY

In essence, prevention of vitamin D deficiency in infants depends upon the administration of vitamin D milk which contains 400 USP units per quart in a quantity sufficient to supply 400 units

or on the administration of 800 to 1000 USP units of vitamin D in the form of cod liver oil, viosterol or other fish liver oils. For the premature infant 1000 to 10,000 USP units of vitamin D may be necessary. Rickets may be controlled by the administration of 1000 to 1500 USP units of vitamin D in the form of cod liver oil, viosterol in oil or some similar concentrate. For occasional cases and particularly for premature infants larger doses may be required, (10,000 to 60,000 USP units daily).

VITAMIN E

Evidence is lacking that in man a condition due to deficiency of vitamin E exists.

VITAMIN K. HYPOPROTHROMBINEMIA

WITH BLEEDING

Deficiency of vitamin K may lead to a hemorrhagic tendency in certain patients with jaundice, hepatic disease or gastrointestinal disease which interferes with intestinal absorption. Principal interest in this substance is in relation to the effect it has in the prevention and treatment of bleeding in cases in which the level of prothrombin in the blood is greatly diminished. Vitamin K therapy is in the process of development. Early in 1939 Snell¹ stated that the amounts of material required for prophylactic or curative treatment are still under investigation. For the former the daily oral administration of from 400 to 800 mg. of alfalfa concentrates (2000 to 4000 Dann units) with 1 to 2 gm. of bile salts has been advised; for the latter from 1 to 3 gm. (500 to 15,000 Dann units) plus fistula bile, lyophilized bile, or from 2 to 4 gm. of animal bile salts may be administered through duodenal tube at appropriate intervals. One or two such doses usually are sufficient to raise the concentration of prothrombin to a safe level. More recently a synthetic preparation of the vitamin named, phthiocol, which is parenterally administered with effective results in cases of jaundice with bleeding has been reported by Butt, Snell and Osterberg². The substance probably will be available commercially before long.*

TREATMENT OF VITAMIN DEFICIENCY DISEASES

OF MILD DEGREE

For patients with symptoms and signs of vitamin deficiency of mild and perhaps uncertain character the essentials of treatment are the use of a therapeutic diet high in its content of vitamins (table 2),

supplemented with rich food sources, concentrates and crystalline preparations of the vitamins. In essence, the treatment is the same as for vitamin deficiency states of marked degree, although massive doses of the vitamins are unnecessary.

For patients suspected of having vitamin A deficiency of mild degree doses of the vitamin in the neighborhood of 25,000 to 50,000 USP units should be ample. For patients suspected of having a deficiency of the vitamin B complex of mild degree the diet, supplemented with brewers yeast or wheat germ in amounts of 10 to 25 grams daily with or without thiamin chloride (5 to 10 gm.), nicotinic acid (100 to 300 mg.) and riboflavin (1 to 3 gm.) continued for from one to three weeks, should prove sufficient to relieve most of the symptoms and to act as a therapeutic test to establish the diagnosis.

For patients suspected of having vitamin C deficiency of mild degree a diet containing foods rich in vitamin C supplemented by synthetic ascorbic acid in doses of 100 to 500 mg. daily for a period of two or three weeks, should be of value in relieving symptoms.

For mild cases of rickets and patients with other forms of vitamin D deficiency and for those who are suspected of having deficiency of vitamin K treatment should be the same as that for patients with marked degrees of deficiency of these substances.

USE OF VITAMINS IN CONDITIONS WHICH MAY OR MAY NOT BE DUE TO VITAMIN DEFICIENCY

The early general symptoms of nutritional deficiency are usually vague and indefinite. This fact is more clearly appreciated when consideration is given to the widespread nature of these early symptoms and to the lack of specificity of most of them. Minot³ has listed these early general symptoms as a sense of fatigue or lack of energy, inefficiency and mental irritability, mild anemia, simple disorders of the digestive tract and symptoms and signs referable to faulty growth and to the skin, nervous, blood forming and reproductive organs. Loss of appetite, weight and strength, muscle cramps, diarrhea, edema, paresthesias, vertigo, headaches and nervousness all may be present.

It is obvious that a diagnosis of vitamin deficiency disease cannot be made on the basis of the symptoms noted above. It is also clear that almost all diseases at times may be manifested by one or more of these symptoms. Since many patients have the vague and indefinite symptoms previously noted

1. Snell, A. M.: Vitamin K: Its Properties, Distribution and Clinical Importance, *J.A.M.A.*, 112:1457-1459, April 15, 1939.

2. Butt, H. R., Snell, A. M. and Osterberg, A. E.: Phthiocol: Its Therapeutic Effect in Treatment of Hypoprothrombinemia Associated with Jaundice: Preliminary Report, *Proc. Staff Meet. Mayo Clin.*, 14:497-502, Aug. 9, 1939.

*Since preparation of this manuscript several pharmaceutical companies have placed on the market synthetic crystalline plain K for oral and parenteral use. One or two milligrams several times daily is the usual dose.

3. Minot, G. R.: Nutritional Deficiency, *Ann. Int. Med.*, 12:429-442, Oct., 1938.

and since these symptoms are known to be associated with nutritional deficiency, it naturally has followed that many patients with them have been treated with vitamins. How is the physician to know whether or not his patient with these complaints suffers from "vitamin deficiency" and that treatment with vitamins is indicated?

THE USE OF VITAMINS FOR PERSONS WHO ARE CHRONICALLY FATIGUED, "RUN DOWN," BELOW PAR OR SUBJECT TO FREQUENT INFECTIONS

The diagnostic and therapeutic problems presented by patients who fall into this group often are very difficult to solve. Such symptoms may be the result of organic disease; in other patients they have been ascribed to nervous and constitutional disorders or to such vague causes as glandular disturbances, chronic toxemias and autointoxication. Vitamin therapy has become a great panacea for patients with such complaints and unfortunately this method of treatment will be continued indiscriminately until methods are available clearly to establish the diagnosis of mild or preclinic states of vitamin deficiency.

If a physician elects to treat such a patient with vitamins, he should make the keystone of his treatment a well balanced diet rich in vitamins and calories. This diet may be supplemented with concentrates and synthetic products of vitamins in moderate sized doses as noted in the section on treatment of mild degrees of vitamin deficiency. It is much wiser to supplement the diet of such patients with foods rich in vitamins and with concentrates which contain vitamins in the natural form than it is to depend on so called "shotgun vitamin mixtures." The Councils on Pharmacy and Chemistry and on Foods of the American Medical Association recently have reemphasized the disadvantages of the indiscriminate use of preparations of this type. The Councils have accepted none of them.

In occasional cases patients in this group have a sufficiently impaired digestive function to interfere with adequate utilization of orally administered supplements of vitamins early in the course of treatment. For such patients moderate doses of vitamins administered parenterally for a few days may produce marked improvement. At times this improvement may be so marked as to amaze the physician and cause him to question the diagnosis and suspect that the psychologic influences of parenteral therapy are responsible for the dramatic effect.

If significant improvement within a period of a few weeks does not occur, vitamin therapy prob-

ably will prove disappointing, the diagnosis of vitamin deficiency may be questioned and the therapy discontinued. There is no advantage whatever to be gained by the long continued administration of large doses of vitamins to patients with such vague complaints.

It is important to remember that the complaints we have been discussing are largely subjective and symptomatic, and that it is no more logical to expect good results from therapy with vitamins in all patients who complain of them than it is to expect continued good results and cure in treatment of all patients who have headaches with aspirin, of all who have coughs with codeine or of all who have diarrhea with opium.

Gastrointestinal Diseases. As previously pointed out, gastrointestinal symptoms may be early and outstanding events in the course of vitamin deficiency states. The gastrointestinal tract is the normal portal of entry for vitamins and diseases which affects its function may significantly impair the utilization if not the supply of them.

Peptic ulcer and in particular bleeding from ulcer, chronic ulcerative colitis, glossitis and stomatitis and conditions resulting in constipation, diarrhea, achlorhydria, abdominal flatulence and anorexia have been interpreted by some observers as manifestations of vitamin deficiency diseases. However, at present evidence for this interpretation is far from conclusive.

The most important point to be stressed in treatment of these conditions with vitamins is the use of an adequate diet for all cases, in which it is possible for the digestive tract of the patient comfortably to handle it. This is particularly true for those cases in which the patient for a long period of time will be on a program of dietary management. If it is impossible for him to have an adequate diet, vitamin supplements in amounts to meet the optimal requirements of the patient should be administered (table 5).

There is very little evidence to suggest that peptic ulcer is due to deficiency of vitamin C or any other vitamin. It seems quite likely that for those patients with peptic ulcer, in whom the plasma values for vitamin C are less than normal, the deficiency is secondary to the original ulcer condition. Administration of doses of vitamin C sufficient to saturate the tissues does not seem to have any appreciable effect on the clinical course of patients with peptic ulcer.

Evidence of vitamin deficiency is outstanding in some patients with chronic ulcerative colitis, and addition of vitamin supplements to the diet of

patients with this disease may be of great therapeutic value.

Anorexia generally is recognized to be one of the earliest symptoms of deficiency of vitamin B₁, and while it is obvious that all cases of anorexia are not due to deficiency of this substance, if other causes are absent, the vitamin may be very helpful in the treatment of this symptom. Excellent results have been reported by some observers in treatment of diarrhea of patients with an "irritable colon" by means of thiamin in daily doses of 1 to 10 mg. orally. Similarly constipation, flatulence, distention and other gastrointestinal symptoms have been reported to be relieved by this form of therapy. While it seems probable that in some cases these symptoms may be the result of a vitamin deficiency, as yet means are not available to substantiate this belief in most cases. A satisfactory response to a therapeutic trial with components of the vitamin B complex is not a reliable means of proving the existence of a deficiency state in such

It has been suggested that 2 to 5 mg. of vitamin B₁ or 10 to 15 grams of dried brewers yeast or some similar rich natural source of the vitamin B complex be administered during acute and chronic infections. The need for extra amounts of vitamin C is indicated by the fact that some patients with infections, such as tuberculosis and rheumatic fever, require as much or more than 200 mg. of the substance daily to maintain normal levels of urinary excretion and of plasma values for vitamin C.

Cardiovascular Diseases. The only clear cut clinical syndrome of cardiovascular disease due to vitamin deficiency is that of the beriberi heart. Treatment of this condition has been noted in the discussion of the vitamin B complex.

Edema is a prominent symptom of beriberi of the wet type. The cause of the edema is not always clear and evidence which has been presented suggests that in some cases of beriberi, peripheral neuritis and "endemic types of nutritional edema" deficiency of vitamin B₁ is a significant etiologic

TABLE 5
DAILY REQUIREMENTS OF VITAMINS

Vitamin	Units	Infant and Child	Adults	Pregnancy and Lactation	Suggested Optimal for Adults	Therapeutic Doses
A	USP	6000-8000	2000-4000	5000 plus	8000-10,000	10,000-75,000
	I.U.	300-450	300-600	750-900	600	3,000-18,000
B ₁	mg.	1.0-1.5	1-2	2.5-3	2	10-60
Nicotinic Acid	mg.	?	?	?	?	200-500
Riboflavin	mg.	?	?	?	2-3 (suggested)	2-5
B ₆		?	?	?	?	?
C	mg.	40-100	50-100	60-100	80-100	25-3,000
D	USP	400-600*	?	800-1000	?	400-1,000,000

*For the premature infant 600-800 USP units, for the growing child 300-400 USP units daily.
USP units indicates United States Pharmacopeia XI units.
I.U. indicates International Units.

cases. It seems wise not to interpret symptoms as certainly the result of vitamin deficiency unless there is other evidence of a vitamin deficiency state, unless evidence of a deficiency develops subsequently or there is a very significant response to therapy.

Infections. In treatment of acute and chronic infectious diseases vitamins may be of great importance, not only because the requirement for them is increased when infections are present but also because there is evidence to suggest that the susceptibility and resistance to infections is decreased in vitamin deficiency states. Infections also may interfere with absorption of vitamins from the gastrointestinal tract. If a vitamin deficiency state develops in the course of an infection, it is most likely to be due to deficiency of one of the components of the vitamin B complex, particularly thiamin or vitamin C.

factor. While it is useless to expect vitamin B₁ to clear up all types of edema, nevertheless in some cases of edema of obscure origin, therapy with the vitamin is worthy of therapeutic trial.

In recent years some evidence has been presented to substantiate the hypothesis that vitamin C deficiency may be a significant factor in the etiology of rheumatic fever and perhaps rheumatoid (chronic infectious) arthritis. While this hypothesis is not widely accepted, there is little question that patients with rheumatic fever commonly have low excretion values for vitamin C in the urine and low values for the vitamin in the blood plasma. In the treatment of such patients, therefore, it is advisable to see that ample quantities of citrus fruit juices and other food sources of vitamin C are administered and supplemented if necessary with the synthetic vitamin to give normal values in the blood and urine. The amount of vitamin C

required to accomplish this result varies considerably from one patient to another. Amounts between 100 and 300 mg. daily usually will satisfy the requirements.

Hemorrhagic Conditions. Hemorrhagic phenomena have been closely identified with deficiency of vitamin C and vitamin K. In considering treatment of hemorrhagic conditions with vitamin C care must be exercised in establishing the diagnosis of scurvy, if it is possible to do so. It has been suggested that vitamin C deficiency may account for a variety of hemorrhagic states, including symptomatic purpura, thrombocytopenic purpura, Schönlein's and Henoch's purpura and hemophilia, for the hemorrhagic manifestations of diseases such as leukemia and acute hemorrhagic nephritis and bleeding occurring with certain diseases of the uterus, lungs and gastrointestinal tract. In fact, beneficial effects of treatment with vitamin C have been reported in cases having the above noted diseases. However, subsequent experience has clearly shown that administration of vitamin C to patients with hemorrhagic diseases other than scurvy is of no value. Methods of administering it to patients with scurvy who bleed is noted in the discussion of treatment of scurvy.

Deficiency of vitamin K is associated with hemorrhagic phenomena *only* when the values for prothrombin in the blood are markedly diminished. This situation may arise in patients with jaundice, liver disease, gastrointestinal diseases interfering with absorption and possibly in hemorrhagic disease of the newborn.

Vitamin K may be administered to such patients in the form of dried alfalfa in capsules along with bile or bile salts (see vitamin K). The vitamin has been synthesized and probably soon will be available for parenteral administration[‡]. As a prophylactic in some cases, administration of large amounts of vegetable greens, which are a good source of vitamin K, may be useful.

Anemia. Various sorts of anemia have been ascribed to vitamin deficiency but as yet it is not clearly understood just what factors are responsible for them. Deficiency of components of the vitamin B complex have most commonly been related to the development of anemia; in fact, the extrinsic factor of pernicious anemia apparently is closely related to one of the heat stable components of the complex. Macrocytic anemia commonly is present

in beriberi, in addition to alcohol and at times in the latter part of pregnancy, probably as result of deficiency of an essential component of the vitamin B complex. Microcytic anemia also has been cured by administration of these substances. In treatment of these deficiency anemias little is to be gained by administration of thiamin, riboflavin or nicotinic acid separately or together. The basis of treatment should be an adequate therapeutic diet, supplemented with dried brewers yeast, autolyzed brewers yeast, wheat germ, powdered liver extract or liver extract for parenteral use. The substances should be given in the doses noted for the treatment of severe deficiency of components of vitamin B complex.

Anemia commonly accompanies scurvy. Minot⁵ has noted occurrence of a normocytic or slight macrocytic anemia in persons with deficiency of vitamin C. The anemia in such cases may in part be due to lack of iron or other essential hematopoietic substances. Therefore, in treatment of them vitamin C should be exhibited in addition to an adequate diet, iron and liver.

Neurologic Disorders. The treatment of peripheral neuritis already has been discussed. Other neurologic conditions, which are due to deficiency of vitamins or in which vitamin deficiency has been reported to be at least a contributory etiologic factor, include subacute combined degeneration of the spinal cord, mental disorders accompanying pellagra, certain cerebral manifestations following operation and during pregnancy, Landry's paralysis and many types of degenerative diseases of the central nervous system. Treatment of these conditions is too broad a subject to be discussed in this presentation. In general, it may be said that in some of them, such as the psychosis of pellagra and the peripheral neuritis of pernicious anemia, very rapid and brilliant results may follow administration of nicotinic acid and liver extract respectively. In the more chronic cases results may be less striking and treatment may have to be carried out over a long period of time.

(To be concluded)



[‡]Since preparation of this manuscript it has been reported that vitamin E is of value in the treatment of Parkinson's Disease, amyotrophic lateral sclerosis and other neuromuscular diseases. Proof of its value is not established.

EDUCATION OF THE ACOUSTICALLY HANDICAPPED

MISS ELVENA MILLER

Principal, Seattle School for the Deaf
SEATTLE, WASH.

Children with hearing losses fall into three educational groups as determined by amount of the loss, age of the child at the time of the loss, and such variables as environment, personality and intelligence. Lines of demarcation between these groups are not at all definite, and as with all individuals, absolute classification is difficult. Roughly speaking, the groups may be called the hard of hearing, the partially deaf and the deaf.

It is rather generally accepted by educators that a child with a hearing loss of twenty decibels in both ears is in need of lip reading. Recently the medical department of Seattle public schools discovered a number of children who were attending the regular schools, but who were presenting definite problems because of their hearing loss. The 4A audiometer tests had been given to all school children above the third grade, followed by 6A diagnostic tests for those who indicated a significant loss. All children with twenty decibel loss or more in both ears, who were not already in the School for the Deaf, were studied to determine their needs and educational adjustment.

Of these 84 children, 72 were found to be in need of lip reading. It is significant that 14 had faulty speech, 36 were retarded scholastically, and 30 were personality and behavior problems. Next year these children will be given the training they need in lip reading in their regular schools. Since lip reading is so very difficult under the best circumstances, proficiency cannot be gained in one or even two years. Opportunity should be given to these children to study lip reading during most of their school years, and even after that there should be systematic follow-up.

Partially deaf children are those who have enough hearing to enable them to develop some speech, even though it may be imperfect, and a limited amount of language. Unfortunately, these children frequently struggle along in hearing classes for several years before parents are convinced that they need special education, and much precious time is lost and serious complications ensue. These children must have special training in language, lip reading and speech, as well as individual help with

all other school subjects. It is best for them to associate as much as possible with hearing children, and for this reason some schools have worked out a "contact" plan of education for them. Most of our public schools for the deaf are housed in schools for hearing children, thus enabling the partially deaf to take as much of their work as is possible under normal school conditions, always under close tutorship of the special teacher. The use of a group hearing aid is of inestimable value to these partially deaf children, and every school for the deaf should make provision for this.

The deaf child presents a different problem. He will never learn language, lip reading and speech unless he is specially taught. Without these means of communication, education is denied him. Deaf children usually have some residual hearing, even though it be but an "island," and the use of group hearing aids stimulates their attention and acuity, giving them a conception of sound and speech. It does not give them more hearing, but stimulates the fragment of hearing they already have, making it usable. They can never expect to use hearing alone for communication, but use of the aid improves vocal quality, inflection and rhythm, and aids in the development of normal speech.

Since deaf children go through the same babbling period as hearing children preparatory to learning to speak, the psychologic time to develop an awareness of language used for communication is during the very early years. A properly trained parent or teacher can take advantage of the babbling and turn it into speech. For this reason some schools are starting deaf babies at two and one-half or three years of age, giving them a nursery school program with the beginnings of speech and lip reading. The younger the child enters a special school for the deaf, the better the prognosis for normal speech and language.

Tacoma, Spokane, Everett and Seattle have special schools for the deaf and hard of hearing as part of the public school system. In these schools the oral method is used, and children are taught not only the regular academic and vocational subjects, but language, lip reading and speech. In Vancouver is the School for the Deaf, a state residential institution. With all of these facilities, there is no reason why an acoustically handicapped child in the state of Washington cannot receive a good education, enabling him to take his place in the world.

STATE SECTIONS

WASHINGTON STATE MEDICAL ASSOCIATION



FIFTY-SECOND ANNUAL MEETING, SEATTLE, 1941

WASHINGTON STATE MEDICAL ASSOCIATION

Proceedings of the Fifty-first Annual Meeting of
Washington State Medical Association,
Tacoma, August 25-28, 1940

PRESIDENT'S ADDRESS

PROGRESS DURING PAST YEAR

WARREN B. PENNEY, M.D.
TACOMA, WASH.

BOARD OF TRUSTEES

FIRST SESSION

The Board of Trustees met at Winthrop hotel, Sunday, August 25 at 6 p.m.

The written annual reports of all committees were submitted, including the report on finances of the Association made by the Secretary-Treasurer. The reports were referred to the House of Delegates. All reports appear in the minutes of the House of Delegates session held August 28.

All Board members were present at both meetings with the exception of A. E. Gerhardt, Wenatchee; J. W. Henderson, Longview and H. E. Rhodehamel, Spokane. Dr. Rhodehamel was called to California because of his mother's illness.

The Board approved sending of two delegates to the Pacific States Medical Executives Conference scheduled to be held in Portland in December.

John H. O'Shea, member of the national Committee on Medical Preparedness, presented a verbal report on the activities of the committee.

The Board moved that the Legislative Committee, with attorney for the Association, make certain recommendations for consideration at its next meeting. It received a verbal report of activities and recommendations of the Board of Governors.

The Board moved that the proposed new Constitution and By-laws be referred to the Resolutions Committee.

Operating under the revised By-laws adopted August 30, 1939, the Board nominated the following officers and committee members, whose terms had expired: A. J. Bowles to succeed himself as Assistant-Secretary Treasurer; H. E. Rhodehamel and J. E. Bittner, Jr., to succeed themselves as members of the Legislative Committee; G. W. Cornett and W. D. Read to succeed themselves as members of the Board of Governors; A. T. Wanamaker to succeed himself on the Finance Committee; H. G. Willard, J. M. Bowers and R. N. Hamblen to succeed themselves as Trustees of NORTHWEST MEDICINE and R. L. Zech to succeed Homer D. Dudley as a member of the Executive Secretary Committee.

SECOND SESSION

The Board of Trustees met on Wednesday, August 28, at 5:30 p.m. during a short recess of the House of Delegates. Operating under provisions of the new Constitution and By-laws, adopted by the House of Delegates it elected R. L. Zech to succeed Homer D. Dudley as a member of the Executive Committee and nominated for consideration by the House of Delegates the three present NORTHWEST MEDICINE trustees to be known as Committee on Publication, and six members to the Committee on Medical Defense, the nominees being unanimously elected by the House of Delegates.

The by-laws make it mandatory for the president of this Association to make a report at the annual meeting. Your Board of Trustees has had five meetings since the last annual meeting, and credit must be given to this body of men for their sacrifice of time and interest in this Association. A great many matters of importance to the medical profession have been discussed and acted upon during the year. The executive secretary's committee has a much more arduous duty to perform. It has met regularly each week throughout the year and frequently two or three times a week. This committee is of great help to the president of your Association, and I wish to extend to them my appreciation, as well as to the members of the Board of Trustees, for their consideration throughout the year.

On November 12, 1939, an invitation was extended to the chairmen of all committees which had been appointed to act during the year. Fifteen attended this meeting. Several hours were spent in discussion of the work that might be taken up by the various committees. Each chairman outlined his plans, and an informal discussion was held after each report.

At the December 16 meeting of the Board of Trustees, a resolution was adopted asking that all committee reports be submitted to the central office at least four weeks before the annual meeting. Also each society and delegate were asked to submit to the central office, at least four weeks before the annual meeting, any resolutions which they expected to present at the annual meeting, these reports and resolutions to be sent to each delegate and officer of the Association at least two weeks before the annual meeting.

On December 3 the Pacific States Medical Executives meeting was held in Seattle. Dr. Rhodehamel was president, and was reelected for next year. Representatives from Washington, Oregon and California were present, and a full day was spent in discussion of problems common to the Pacific Coast. This discussion embraced the federation of professional societies, known as the Oregon Plan, medical service bureaus, malpractice defense, basic science requirements, health legislation, public relations, and postgraduate medical education plans.

During the last year Dr. Leland, head of the Bureau of Medical Economics of the American Medical Association, spent some time in the state making a survey of the medical service bureaus. This was done at the request of the service bureaus and the State Medical Association. His report has not yet been received.

Eleven county medical societies have been visited, and

most of them were found to be in a healthy condition. There are three or four counties in which there are altogether too many men who are outside of the medical societies. I fear local jealousies and personalities are keeping many of these men from the professional associations which they should have, and preventing the Association from presenting the solid front to local communities and legislators from those localities that could be maintained. These doctors have to live and work together, and this division of medical men in a community is detrimental to the best welfare of all the doctors in that community and in the state. It is especially detrimental to the medical care rendered to citizens of the community. I hope that the coming administration will be more successful than I have been in bringing these factions together.

State Health Department

Several conferences have been held with the officials of the State Health Department. The director of health or his assistant have been invited to attend meetings of the House of Delegates and trustees meetings during the year. This friendly cooperation and interest of the State Department of Health have been greatly appreciated.

Women's Auxiliary

This organization has prospered throughout the year under the presidency of Mrs. Lunan Roach. This association has been most pleasant, and I wish to take this opportunity of expressing appreciation for the help which has been thus rendered in many of the counties of the state.

Public Health League

The Public Health League was voted out of existence at the meeting a year ago. The funds from the league were turned over to the State Association and are to be used only for legislative and public relations activities. This is according to a resolution passed by the Board of Trustees.

Defense Fund

The Board of Governors of the Defense Fund has retained Mr. W. T. Laube as attorney and has had several meetings throughout the year in regard to changing and bringing the Defense Fund regulations into line with changes in the law. Mr. T. V. McDavitt of the American Medical Association office in Chicago came to Washington and collaborated with Mr. Laube and the Board of Governors in the new regulations of the Defense Fund.

Group Hospitalization Committee

The Group Hospitalization Committee has held several meetings and has come to the conclusion that conditions in this state do not seem favorable for development of the group hospitalization insurance plan.

Maternal and Child Welfare

The Maternal and Child Welfare Committee has had several meetings. These have been held in conjunction with the State Department of Health, and they have made a few recommendations.

Resettlement Committee

The Resettlement Committee has had several contacts with government officials in regard to taking care of clients of the Farm Security Administration. The conclusion of this committee has been that the medical care of these clients is so diversified in the various localities that no general plan by the State Association could be developed.

Industrial Insurance Committee

The Industrial Insurance Committee in collaboration with the Department of Labor and Industries has presented a

new fee schedule during the year. The present relations between the Department of Labor and Industries and the State Medical Association are very cordial and friendly.

Committee for the Study of Medical Care

The Committee for the Study of Medical Care has presented a report which makes several recommendations that might be of value. However, no definite statistics are given as to the actual costs or details of medical care as it exists in the state at the present time.

Social Hygiene Committee

The Social Hygiene Committee has worked with the state Department of Health in carrying out the work of venereal prophylaxis. Much printed material has been given out, and the committee collaborated with the Seattle Welfare Council in collecting material relative to venereal disease conditions in Seattle and causes of the same.

Postgraduate Medical Education Committee

The Postgraduate Medical Education Committee has continued the work of last year's committee. This consisted of an inventory of the various associations and institutions carrying on postgraduate work in this state. A program has been developed which will be presented to the House of Delegates, providing for taking postgraduate instruction to the doctors in various parts of the state.

Tuberculosis Committee

The Tuberculosis Committee has been very busy and has accomplished a great deal of work. It has worked with the State Department of Health in initiating and putting into actual operation the present regulations for examination of school teachers. Also, it has contacted all the hospitals of the state and is working on a program for examination and continued reexamination of student nurses during their hospital training period. This committee has contacted practically every county society in the state, and, I believe, programs have been held in all the county societies.

Radio Committee

The Radio Committee was active throughout the winter and spring. Seventeen programs were broadcast from King County Hospital, one from Firlands and four from the Children's Orthopedic Hospital in Seattle. These programs were entitled "Appointment with Health" and were given Sunday afternoons.

Neoplastic Committee

The Neoplastic Committee has met monthly throughout the year and has carried on an active campaign in cancer interest throughout the state. Ten meetings have been held, most of them being panel discussions. The work of the cancer committee is well illustrated in the exhibit which is on display at this meeting. This is well worth the study of every member of our Association, and is to be greatly commended. It is believed the field army has been a very valuable addition to the health forces of the state. The cancer committee has sponsored a program at least once in every county medical society during the year.

Public Relations Committee

The Public Relations Committee was provided for at the meeting a year ago and took over the functions of the public health league. This committee has general supervision of the public relations work of the Association. It has held several meetings and has spent a great deal of time in collaboration with the trustees in outlining a general plan for the welfare and health of the public, as well as conserving the principles for which medicine in the State of

Washington has always stood. It has worked with the legislative committee, and under the proposed new by-laws will have a still further important part in helping to form laws of the State of Washington in regard to medicine and public health, as well as carrying on an educational program for American medicine.

At this time the membership of the State Association shows an increase of 95 members in good standing over last year. This is an excellent increase, but there are still between 400 and 500 practitioners throughout the state who should help us in our program.

I wish particularly to call your attention to the scientific exhibits. These have been prepared after a great deal of work and are worthy of all the time you can give them. They are all work of Washington men.

I am proud of the program we are presenting. As you will note, every man on the scientific program is a Washington man. I think you will agree with me that this program demonstrates that our men have done credit to themselves and medical profession of the State of Washington.

Finally, while it has been impossible to give credit to each man who has given time and conscientious work to these various committees, I do especially wish to call attention to one man by name, Dr. C. W. Sharples, who has worked day in and day out and often nights, as chairman of three important committees. He has been chairman of the finance committee, of the executive committee and of the committee on revision of by-laws. The whole state owes a debt of gratitude to him.

This gives you a short summary of some of the work being carried on by your State Association. The various interests and problems of the state are taking more and more time and study and should be given more attention by the medical profession. This means an ever enlarging scope of the work of our central office, and I cannot give too much credit to the help of this office in making easy the president's job. I also wish to express to all of you my appreciation of having been privileged to serve as your president during this year and to bespeak for Dr. Dudley and his administration the same friendly, helpful cooperation that I have received wherever it was asked.

HOUSE OF DELEGATES

FIRST SESSION

August 27.

The meeting of the House of Delegates was called to order at 8:00 o'clock a.m., by the Speaker, Wilmot D. Read. All sessions were held in the Army-Navy room, Winthrop hotel. On calling the roll, a quorum was found to be present. Minutes of the 1939 meeting of the House of Delegates were approved and adopted as published in the November, 1939, issue of *NORTHWEST MEDICINE*.

Appointment of Resolutions Committee

The Speaker of the House of Delegates appointed a Resolutions Committee of John H. O'Shea, chairman; R. L. Zech and S. F. Herrmann and announced that all committee reports, resolutions and the proposed Constitution and By-laws were referred to the Committee. The Speaker also announced that any member could appear before the Committee and discuss any proposed resolution or section of the Constitution and By-laws.

Reports of Committees

The annual reports of committees, resolutions, Constitution and By-laws and other items were referred to the

Resolutions Committee for a report back to the House of Delegates on Wednesday, August 28. V. W. Spickard, Secretary-Treasurer, submitted the yearly audit as of January 1, 1940, with a portion of the audit of 1939 and summary to July 31, 1940.

Report of Secretary-Treasurer

TOTAL RECEIPTS AND DISBURSEMENTS FOR CALENDAR YEAR 1939

General Fund

Total receipts	\$20,553.25
Total disbursements	18,918.17

Excess receipts over disbursements.....\$ 1,635.08
Balances December 31

Checking account	\$ 6,007.24
Savings account	5,248.88

Total.....\$11,256.12

Medical Defense Fund

Total receipts	\$ 8,453.55
Total disbursements	4,697.31

Excess receipts over disbursements.....\$ 3,756.24
Balances December 31

Checking account	\$ 2,869.91
Savings account	15,260.15

Total.....\$18,130.06*

*Does not include the value of securities owned, purchased for \$28,427.50.

JANUARY-JULY 31, 1940

General Fund

Total receipts	\$16,862.84
Total disbursements	9,386.28

Excess receipts over disbursements.....\$ 7,475.96
Balances July 31

Checking account	\$13,378.31
Savings account	5,354.37

Total.....\$18,732.68

Medical Defense Fund

Total receipts	\$ 5,106.57
Total disbursements	2,543.49

Excess receipts over disbursements.....\$ 2,563.08
Balances July 31

Checking account	\$ 5,148.67
Savings account	15,544.47

Total.....\$20,693.14*

*Does not include securities owned, purchased for \$28,427.50

MEMBERSHIP AS OF AUGUST 21, 1940

Active	1,431
Remitted	3
Honorary	77

Total

Medical Defense Fund Members, 773 (an increase of 35 over last year) August 21, 1939, 1,170 members had paid 1939 dues.

August 21, 1940, 1,292 have paid 1940 dues, an increase of 122 paid members or \$1,464.00.

V. W. SPICKARD,
Secretary-Treasurer

Report of Finance Committee

We hand you herewith a statement showing the original amounts appropriated by the Board of Trustees, and the balance as of August 1, 1940 remaining unexpended in those items in which the entire amount has not been spent:

	Amount	Balance
Executive Secretary Committee.....	\$10,000.00	\$5,131.95
President's office	300.00	300.00
Meetings—Annual	1,000.00	957.21
Board of Trustees.....	650.00	360.22
Delegate to A.M.A.....	350.00	

Northwest Medicine.....	2,600.00	15.00
Exhibit expense	650.00	640.00
Radio programs	1,000.00	85.84
Fidelity Bonds	15.00	7.50
Miscellaneous	200.00	200.00
Public Relations	2,000.00	2,000.00
	\$18,765.00	\$9,697.72

The following is the condition of the finances of the Washington State Medical Association, as of August 1, 1940:

Cash, General Fund

Checking Account	\$13,378.31
Savings Account	5,354.37

Appropriated funds, not spent..... 9,697.72

Unencumbered Balance\$ 9,034.96

C. W. SHAPLES,
Chairman

Postgraduate Medical Education Committee

PROPOSED PROGRAM AND OUTLINE

In keeping with the renewed interest in graduate medical education throughout the United States a Committee on Postgraduate Medical Education was appointed by Dr. Rhodehamel, former President, and authorized by the Board of Trustees of Washington State Medical Association on January 8, 1939.

A survey of the present situation brought to light two large problems. First, the need for correlation of the already rather extensive but sporadic and uncoordinated activities in graduate medical education throughout the state. The following agencies have been sponsoring postgraduate instruction.

1. *The University of Washington Extension Division* in cooperation with King County Medical Society has conducted five-day graduate medical courses during July each year since 1916. Four or more out-of-state physicians are engaged as a faculty to give lectures which are supplemented by clinics in the afternoon given by local physicians in King County Hospital. A registration fee of ten dollars is charged and the annual attendance ranges between two and three hundred.

2. *Pacific Northwest Medical Association.* In former years this association gave a five-day course of lectures conducted by invited speakers from the various medical schools. This course was open to doctors of Washington, Oregon, Utah, Montana, British Columbia, Alberta, Saskatchewan, and Idaho.

3. *The State Department of Health* has been active in conducting refresher courses and clinics in obstetrics and pediatrics. This work has been aided by the Committee on Maternal and Child Welfare of Washington State Medical Association and in 1939 the division of maternal and child hygiene of the State Department of Health together with the state committee sponsored a three-day series of afternoon and evening lectures in seven cities throughout the state.

4. *Standing Committees of Washington State Medical Association.* Various committees of Washington State Medical Association, such as Tuberculosis, Neoplastic, Maternal and Child Welfare, Social Hygiene, etc., have conducted postgraduate instruction meetings for the various county medical societies. The committees on Tuberculosis and Maternal and Child Welfare have been particularly active in this respect.

5. *Special Society Meetings.* The following societies hold annual meetings with papers given by out-of-state speakers and clinical demonstrations by members of the society: Seattle Surgical Society, a two-day course in Seattle; Tacoma Surgical Club, a one-day course in Tacoma; Puget Sound Surgical Society, a one-day course in Seattle; Spokane Surgical Society, a one-day course in Spokane and Seattle Academy of Internal Medicine, a two-day course in Seattle. These courses are open to all members of the State Medical Association.

The 1939 annual meeting of Washington State Medical Association, held in Spokane, was devoted to graduate in-

struction. Five instructors of Washington University School of Medicine at St. Louis were engaged in a cooperative agreement with the state medical associations of Oregon and Idaho.

All of these activities are the efforts of individual agencies and, while extremely worthy in themselves, would be much more effective if coordinated through a central committee. This would permit a more equitable distribution of teaching effort as to subject, time and place.

The second problem met by the committee was the need of taking continuation courses to the practitioner in outlying districts who would not or could not attend those provided in large centers. Each state has its own problem, based on the geographic and population distribution of physicians, the presence or absence of a medical school and the availability within the state of men competent to teach.

Of the 2,123 physicians in the state of Washington, 1,515 are members of the State Medical Association. The annual attendance at the University Extension course is between two and three hundred, usually the same men from year to year. Therefore, we have the problem of taking postgraduate teaching to the large majority who do not get it any other way.

With these problems in mind the committee appointed by Dr. Rhodehamel, under the chairmanship of Homer D. Dudley, drew up the following program for postgraduate medical education which was adopted by the House of Delegates of Washington State Medical Association on August 30, 1939.

1. Continuation of the University Extension course, but with a more definite cooperation with Washington State Medical Association through the Postgraduate Medical Education Committee.

2. Coordination of the postgraduate activities of the various scientific committees of the State Medical Association through the central committee.

3. Establishment of a Speakers' Bureau so that men within the state who are competent to give papers and hold clinics may be made available to the various county societies for their monthly meetings.

4. Inauguration of regional postgraduate lectures to be given in selected areas by a faculty of out-of-state speakers.

The Postgraduate Medical Education Committee consists of R. H. Fletcher of the State Department of Health; David Hall, representing the University of Washington; Richard O'Shea, representing the King County Hospital; Homer D. Dudley and A. B. Hepler as chairman, who are working out the details of this plan. To this end we have requested that the proposed programs of the coming year of the State Department of Health and of the various scientific committees of the State Medical Association be sent to us so that we can advise each agency what is contemplated by the others and guide and assist them in their plans.

We have established a Speakers' Bureau made up of 88 physicians from within the state who are willing to respond to the call of the various county societies to present papers and hold clinics. Every member of the State Association was sent an outline of the plan for the bureau with a request to return the blank, naming the subjects which he would like to discuss. The committee then made up a list of speakers and subjects from the submitted names and this list was sent from time to time to the various county societies so that they could make up their monthly programs well in advance, if they wished to use the bureau. If much travel or loss of time is involved, the speaker's expenses are to be paid by the local society. The programs of the various other state committees which are giving postgraduate instruction and of the State Department of Health were included in this list.

Since its creation the Speakers' Bureau has functioned with gratifying success. The speakers themselves have reported to the Central Office of the State Association they have met with enthusiastic audiences. The question period following the talks is an interesting one. The State Association predicts by the results already achieved through the Speakers' Bureau, that the 88 speakers listed will have a busy fall season ahead of them.

To fulfill the need of continuation courses for practitioners in the outlying districts who do not attend meetings

provided in larger centers, the committee has devised a plan of regional postgraduate lectures as follows:

It is proposed to secure five competent out-of-state speakers to give lectures and clinics on the following subjects: obstetrics and gynecology, pediatrics, surgery, medicine and traumatic surgery and fractures. These lectures are to be designed primarily for the general practitioner.

The state is to be divided into five districts based on the geographic distribution of physicians. A town will be selected in each district in which the lecture course and clinics will be given. This selection will not be based upon the physician population but rather on its central location so that it may be easily reached from all parts of the district. The following divisions of the state have been designated:

District 1. Counties: Clallam, Jefferson, Mason, Thurston, Kitsap, Grays Harbor, Pierce, Pacific, Cowlitz, Clark and Lewis. The lectures to be held in Olympia.

District 2. Counties: Whatcom, Skagit, Snohomish, and King. The lectures to be held in Everett.

District 3. Counties: Okanogan, Chelan, Kittitas and Yakima. The lectures to be held in Wenatchee.

District 4. Counties: Walla Walla Valley, Whitman, and Klickitat. The lectures to be held in Walla Walla.

District 5. Counties: Spokane, Lincoln and Stevens. The lectures to be held in Spokane.

The meetings will be held one afternoon and evening a week for five consecutive weeks in each district. They shall consist of afternoon clinics at the local hospital with consultations and round-table discussions followed by lectures in the evening.

It is proposed to cover the districts in the following manner.

For example, if the opening meeting is held in Olympia on Monday, the speaker will move on to Everett in District 2, where the meeting will be held on Tuesday; he will then proceed to Wenatchee in District 3 for a meeting on Wednesday and to Walla Walla in District 4 for a meeting on Thursday and the final meeting in Spokane, District 5, on Friday or Saturday. In this way the entire state can be covered in one week by one speaker. The following week the second speaker will follow the same circuit and so on until all five speakers have covered the state in five consecutive weeks.

This arrangement does not make any extraordinary inroads on the local physician's time or practice because only one afternoon and one evening a week are given over to this course. The lecture centers are within easy driving distance from all parts of the district.

A fee will be charged for the entire course which will be used to cover the fees to the speakers and administration expenses.

It must be realized that the activities in postgraduate medical education in Washington, at the present time, are largely in the nature of plans and proposals. However, it must be realized that efforts at coordinated graduate teaching have just begun and that we hope to be able to report at a later date something in the way of accomplishment.

This program is just the beginning and details may have to be modified as experience dictates.

A. B. HEPLER,
Chairman

Radio Committee

At the meeting of Washington State Medical Association in Spokane, August, 1939, the House of Delegates voted to continue the radio health education programs which had been started the year previous. A sum of \$450 was appropriated for the expenses for the balance of the year 1939, and \$1,000 to continue the program during 1940. In co-operation with the Mutual Broadcasting System in the State of Washington through Mr. Carl Haymond of Tacoma, its president, Washington State Medical Association was allotted a thirty minute period of time on the Mutual network each Sunday afternoon from 2:00 to 2:30. This was released through a nine station hook-up, located in the following towns: KOL, Seattle; KELA, Centralia; KMO, Tacoma KGY, Olympia; KVOS, Bellingham; KXRO, Aberdeen; KIT, Yakima; KPQ, Wenatchee; and KRKO, Everett.

The program series was entitled: "Appointment with Health." The name was devised by Miss Marjorie Mac-

Pherson of the Pacific National Advertising Company, who assisted in the preparation of the first twelve scripts. The announcer for the programs was Mr. William Sandiford, of MacWilkins & Cole Advertising Company. Miss Lynn Taylor, my secretary, took the part of the nurse, and I presented all of the medical discussion. The pattern was based on the discussion of different types of illness, both medical and surgical, and patients were brought to the microphone to be interviewed about their particular illness. Past history, treatment which was instituted, interviews with patients, and medical discussions in simple language of the problems involved in each case made up this program.

Seventeen programs were broadcast from King County Hospital, one from Firlands, and four from the Childrens' Orthopedic Hospital. About 75 patients took part in the programs through the series.

The last program of the series was the first known broadcast of an actual operation, an appendectomy done under spinal anesthesia at King County Hospital. The operation team remained anonymous, and discussion was carried on by the regular radio team. This broadcast received wide publicity and Associated Press reports were published in over 200 papers in the United States. One column was written in Time magazine, and a page of pictures appeared in Life. Various other comments came to the Radio Committee from other sources, an item in the New Yorker magazine, and many others. There were over 200 letters received, complimenting Washington State Medical Association on these broadcasts. It was impossible to estimate the wide extent of publicity which has been received by Washington State Medical Association as result of this health education series.

A particularly pertinent letter was received from a state Senator who congratulated the medical profession in doing something to bring to the public an idea of the work which was carried on by the doctors in the state and the United States. No one individual doctor should be expected to carry on this work because fundamentally doctors are not trained as public relations representatives. We need help, and this help must be paid for by appropriations from our treasury. We should not expect people to help us out and not pay them for it.

Amount Appropriated.....	\$1,000.00
Amount Expended.....	914.16

Balance in Treasury.....	\$ 85.84
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We believe that the good end-results in medical public relations activities have more than justified the expenditure of such a sum of money. We recommend continuance of this series of programs with the appropriation of an increased amount of money so that the Radio Committee will not be handicapped in obtaining script writers, stenographic work and sufficient funds for advertising the program, so that it can be made a more worthwhile project.

EDWIN A. NIXON,
Chairman

Journal Committee

The Journal Committee calls attention to the fact that NORTHWEST MEDICINE is under the immediate jurisdiction of a Board of Trustees consisting of nine members, three being elected respectively by the State Associations of Washington, Oregon and Idaho. It is customary for the three Washington trustees to be elected at the annual meeting of the State Association.

The special feature introduced in NORTHWEST MEDICINE during the past year has been the setting up of "State Sections." Under this heading material is published concerning each state association under its own designation. Under Washington Section is published material pertaining to Association activities, announcements of meetings, reports of society meetings, news items, obituaries and whatever other matters the Central Office desires to communicate to the members.

During the past year the journal has been delivered monthly to each member of the State Association, numbering something over 1,500 physicians. The journal has kept in close touch with the Central Office and the Executive Secretary in an endeavor to impart accurate information in

each month's issue. If any new lines of activity are contemplated by the House of Delegates or Board of Trustees, these will receive due publicity during issues of the coming year.

H. L. WILLARD,
Chairman

Committee on Industrial Insurance

Your Committee on Industrial Insurance met in December to review the new fee schedule submitted by the Department of Labor and Industries. The Committee individually reviewed the proposed schedule, going over the matters thoroughly, then thought that it would be only fair to have an open meeting, whereby the various specialties might be represented to permit them to voice their opinions as to the new fee schedule. This meeting was held in the Medical Dental Building, and quite a number attended.

After this meeting the Committee reconvened and formulated its own opinions as to what changes should be made.

Your Committee then met with Mr. J. W. Hoover, Supervisor of the Department of Labor and Industries, and we went over the entire matter with him. He was most cooperative and willing to assist in every way possible and we were able to come to an agreeable settlement in regard to the new fee schedule which has been officially accepted and is now in use. As far as the Committee knows, there has been no unfavorable comments in regard to this new fee schedule, and our association with the Department of Labor and Industries has been most agreeable.

The only other matter that has come before the Committee is the question of a ruling of the Attorney General, permitting all drugless healers to treat state cases. Upon the advice of Mr. Laube, the attorney for your Association, it was decided not to take any action at the present time, but to secure as much data as possible on cases treated by the drugless healers, and when such has been obtained, then some further action could be carried out. To date, however, the proper time has not come to take any definite action.

H. T. BUCKNER,
Chairman

Public Relations Committee

The Committee has concentrated its attention during the past year on the coming political elections. It is its opinion that, insofar as the welfare of the medical profession and public health are affected by the personnel, its efforts should be directed along these immediate lines. The Committee is aware also that in the last session of the state legislature there were thirty-two bills introduced affecting medicine and public health, eleven of these being enacted into laws. Three of them, namely Senate Bills 83, 159 and 322, were created and designed as attacks against the profession. The three bills, although passing the Senate, failed in the House.

Because the Committee learned that Drs. Henderson (Senate), and Cameron (House) were not standing as candidates for reelection this fall, it believed that attention should be directed throughout the state in seeking candidates to replace them. There has been a certain amount of success in contacting such candidates. The Committee and the Central Office, for instance, were able to persuade V. G. Backman of Pasco to file for the House. There is also Donald Black of Port Angeles who has filed for the Senate. The Committee, through the Central Office, has been able, also, to make intimate contacts with another dozen or more laymen candidates who can be considered as friends of the medical profession.

During the past few months the Committee, through a representative of the Central Office, has been able to present a complete outline of the bills presented at the last legislature and the votes on these bills by the legislators, affecting each district. Because of the press of time all county medical societies could not be covered and it is the intention of the Committee to carry through further with this program.

It is the opinion of the Committee that every county medical society should recognize the importance of the coming political campaigns and the legislative and public relations committees of each should study the character of each candidate, particularly those who have filed for the legislature, U. S. Senate, U. S. Congress, Lieutenant Governor and Governor, and report back to their respective membership their findings. It is believed that an alliance should be formed with allied professions to aid in this program. Such

an understanding has been reached with the dentists and pharmacists who have agreed to cooperate this fall.

The Committee believes that its program should be carried on in a more intensive way for 1941. It suggests that a campaign of educational publicity be mapped out with articles on public health, articles by each state committee and general items; that organization of the physicians be extended in state cooperative matters, public issues, etc.; that the Woman's Auxiliary be brought into a more active field; that it join with allied professions in an endeavor to solve things political which may affect the welfare of all.

R. L. ZECH,
Chairman.

Tuberculosis Committee

Since control of tuberculosis rests to a great extent on every individual having a definite understanding of this disease, considerable effort has been made to disseminate information regarding the tuberculosis problem. Such information must be frequently repeated in order to accomplish the desired result. Therefore, the Committee's program has been, to a great extent, a continuation of last year's activities, adhering to a few definite projects.

Medical Profession:

1. Letters were sent to the presidents of all the county medical societies asking that each county have two or three papers a year on tuberculosis presented by their own members. Also, as an aid in the diagnosis of tuberculosis, we asked the county tuberculosis leagues to present to each member of its local medical society the valuable pamphlet, "Diagnostic Standards," issued by the National Tuberculosis Association. There has been a fair response to these efforts for stimulating a greater interest among the medical profession in tuberculosis work.

2. Roentgen Study. Members of the Committee have repeatedly offered suggestions to individual physicians regarding roentgen work. The Committee has interpreted numerous roentgenograms from group examinations in schools and colleges.

General Public:

1. In cooperation with Washington Tuberculosis Association members of the Committee have given talks before various groups, Parent-Teacher Associations, schools, clubs, and other organizations.

2. Illustrated lectures were given before Washington State College, High School Assembly at Olympia, Tuberculosis League, Skagit County, Mr. Vernon, Parent-Teacher Association at Mount View School, Central Washington School of Education, Pierce County School, Conference of Tuberculosis League, Secretaries.

3. Members of our Committee have submitted their names and have secured others for the Postgraduate Medical Education Committee as available speakers on various phases of tuberculosis for talks before medical societies and other organizations.

Hospital Study:

There has been a continuation of the program started last year, endeavoring to diminish tuberculosis infection and disease among student nurses and other hospital employees. This year twenty-two of the twenty-four hospitals in our state having training schools for nurses have been visited personally by some member of the Committee and this subject has been discussed with the hospital authorities. Later the Committee drew up some recommendations and again these institutions were visited and these suggestions presented to the hospital authorities and staff presidents in an effort to work out a program whereby student nurses and other employees may be protected from tuberculosis infection and disease.

Among the recommendations submitted, the following were especially stressed:

1. Thorough examination of candidates for nursing. This examination must include a roentgenogram on all positive tuberculin reactors.

2. Tuberculin test every six months of all student nurses and others coming in close contact with patients in the general hospital and yearly roentgenograms of all positive reactors.

3. Maintenance of good health. This can be aided by

avoidance of extreme fatigue and a reasonable number of working hours. Balanced diet, adequate housing facilities, prompt care of illness, good provision for recreation, thorough instruction on medical asepsis.

4. Reduce the danger from tubercle bacilli.

a. Make it a hospital requirement that every patient who coughs must have the sputum examined for tubercle bacilli.

b. We hope the day is not too far away when it will be practical to make a roentgenogram of every patient admitted to our general hospitals.

5. Instruction regarding tuberculosis.

See that the student nurses have a complete course of lectures on tuberculosis by both physician and instructor.

An affiliation with a tuberculosis sanatorium greatly stimulates the nurses' interest in this important problem.

The matter of protecting hospital personnel from tuberculosis should often be discussed at hospital staff meetings in order to secure full cooperation in such a program.

JOHN E. NELSON,
Chairman.

Neoplastic Committee

Regular monthly meetings have been held with two meetings in May, 1940. These meetings have been well attended.

The following program was adopted at the first meeting:
Professional Education.

1. Stimulation of "Report of Five Year Cures of Cancer."

2. Development of Cancer Clinics, Cancer Diagnostic Clinics, and hospital staff activity in cancer.

3. Call upon all county medical societies for at least one meeting during the year, devoted exclusively to cancer. A part of all such meetings to be devoted to an explanation of the work of the Women's Field Army.

Public Education.

1. Assist Women's Field Army in every possible manner. Policies and program of the Women's Field Army are at all times under direct supervision of this committee.

2. Encourage the Cancer Committee of every county medical society to develop public speakers on this subject who are ready to respond to requests for speakers by lay clubs or groups.

3. Literature for the public on the cancer problem in offices of all doctors.

4. When the Women's Field Army gets together an audience, there should be public speakers ready to respond.

5. Exhibit material should be made available to local Field Army executives.

This program has been followed with some degree of success.

1. Follow-up studies on end results are well under way. Six thousand copies of the standard record sheets of the American College of Surgeons are now in the hands of the Washington State Department of Health for free distribution to hospitals or individuals on request. These are now in use in many places.

2. Cancer diagnostic clinics are now in process of development in four communities, in addition to the well developed cancer clinics in Seattle and Tacoma.

3. From one to three county medical society meetings have been devoted to cancer in a majority of the counties.

4. The Women's Field Army has done a magnificent job in public education in all parts of the state. Mrs. Ralph Hanson is to be congratulated on her outstanding leadership and surpassing industry as State Commander of the Women's Field Army. Doctors everywhere have responded well in giving talks to lay groups. About 80,000 pieces of literature have been distributed. The campaign has been financed by membership funds of the Women's Field Army and by the State Department of Health. Drs. Evans and Fletcher are to be commended for their fine attitude and material help in forwarding the public educational program. The Committee members have given public talks or held panel discussion public meetings in a great many communities.

5. On the whole, your committee feels that real advance has been made in both professional and public education during the past year.

6. An educational exhibit will be made at the annual meeting in Tacoma.

7. As a result of the past year of study and experience, and in cooperation with the American Society for the Control of Cancer, your committee recommends the following program for 1940-1941:

Clinical Research.

Continued stimulation of accurate records in cancer cases. Better follow-up. Report of 5-year cures.

Professional Advancement.

1. At least one program on cancer during the year (preferably in February or March) in each county medical society.

3. A symposium on cancer at the annual meeting.

4. A cancer committee for each county medical society, the duties of this committee being: (a) Prosecute record studies; (b) Assist Women's Field Army; (c) Develop well informed public speakers on the subject of cancer; (d) Assume responsibility for the county society program on cancer.

5. Study the question of availability of treatment, with special reference to welfare and low wage patients.

6. Study the question of a State Cancer Commission.

7. Biopsy service for small and remote communities.

Educational Campaign.

1. Section II provides for the further education of physicians.

2. Continue the plan of the past year in providing programs for county societies by panel or otherwise, and for some of the larger public meetings.

3. Continued support of the Women's Field Army.

4. Give to the public a tangible program which will command their financial support; e. g., providing treatment for so many indigent patients, publication of definite pieces of literature, furnishing a nurse, providing a follow-up secretary. This would mean giving each area a project.

5. Continue with the present volume of literature.

6. Employ a state publicity expert.

7. Complete the organization of the Women's Field Army in the fall.

J. WHITACRE,
Chairman

Social Hygiene Committee

The Social Hygiene Committee acted mainly in an advisory capacity, since this work is at present being well handled by the State Department of Health. We served in close cooperation with that health agency in formulating venereal disease control plans.

We furnished material to groups which they used in furthering the social hygiene cause.

A major accomplishment was when a rival group with communistic leanings began a campaign for more state medicine, beginning with venereal disease. We were able to show those who had been misled that their statistics were entirely faulty as concerning local conditions and that under present arrangements in this state no one is being denied treatment for venereal disease because of lack of finances. "With no leg to stand upon" that socialistic movement died.

We furnished the following in educational work: nineteen lectures on venereal disease and social hygiene to nurses and lay groups.

An exhibit on venereal disease at the 1940 meeting of the Washington Public Health Association.

Material to laymen for giving eight talks on subjects related to social hygiene and venereal disease control.

Collaborated with the Seattle Welfare Council in collecting material relative to local venereal disease conditions and the cost for 1939.

Furnished a social hygiene program on Social Hygiene Day for the Seattle Health Council.

We assisted the American Social Hygiene Association in their exhibit on gonorrhea at the American Medical Association convention, furnishing statistics, pathologic material for educational purposes and illustrative art work.

W. RAY JONES,
Chairman

Motornol and Child Welfare Committee

Last year the terms expired of Gordon Thompson and D. M. Dayton and they were reappointed by President Penney for a further service period of five years.

December 17, 1939 a meeting was well attended in Seattle and an outline discussed for the year's activities.

In February, representatives of all Washington State Medical Auxiliary sections met in Tacoma. An opportunity was given this committee to appear before them. A plan soliciting their assistance in a general maternal and child welfare educational regime was presented. The delegates were requested to make arrangements in their respective communities with the local women's clubs to provide at least one maternal and child welfare program during the year.

The committee provided a speaker at the State P. T. A. meeting held in Aberdeen on May 15, 1940. Frank Douglass very ably presented a pediatric health program to this group.

The committee was requested by the State Department of Health to communicate with different doctors throughout the state who have been consistently delinquent in their birth reports. This has been done, presenting to these physicians the facts of the state law relative to the reporting of births and urging their compliance. Nearly every doctor who has been a chronic offender has been contacted.

The committee has cooperated with the "Committee of Eight" in developing an obstetric refresher course held in June and July, conducted by Harold M. Teel. Also a further development of this same idea by having a lecture course given in pediatrics by Dr. McKahn of Harvard.

It has become apparent that some definition of what a premature infant is would be of advantage. Consequently this committee, jointly with the "Committee of Eight," is presenting the House of Delegates with a definitive resolution characterizing a premature infant.

Further plans both educational and constructive are being formulated in conjunction with the "Committee of Eight" for more programs in maternal and child welfare. These are to be presented to state lay groups, especially the women's organizations. Also, there is in process of collection potent material to be presented to the obstetric and pediatric organizations of the state.

H. H. SKINNER,
Chairman

Resettlement Committee

The Committee again wishes to call attention to the action taken by the Board of Trustees and approved by the 1939 House of Delegates. "The medical care of the Farm Security Administration clients is so diversified as to its needs and localities that no general plan of state societies can be devised to handle the matter satisfactorily. We believe it is entirely a local problem which should be taken up with the local medical units." This resolution was transmitted to each county medical society in this state in a bulletin from the committee.

To date, satisfactory progress has been made. The following societies have expressed willingness to participate in the medical care program with the F. S. A. borrower associations: Okanogan County, Benton and Franklin Counties combined; Stevens County, Yakima County Medical Bureau. None of the plans are in operation, although associations of F. S. A. borrowers have been completed in Okanogan, Stevens, Benton and Franklin Counties.

Some objection has been found in wordings of the agreements by the Regional Attorney and until this is ironed out the organization cannot be completed. Recently, I received word to the effect that this had been adjusted.

Chelan and Spokane County Medical Societies are considering the plans in regard to migratory farm families.

The State Associations of Oregon, Washington and Idaho are waiting for some plan covering these three states to be submitted by the proper authorities of the F. S. A. At the present time there are temporary arrangements to cover crying needs on a per diem basis to local physicians with pay for hospital care by a grant to the family. This method is not satisfactory but serves as a temporary expedient.

For information of doctors of the state, if they are interested, they can secure from the U. S. Department of Agriculture Farm Security Administration a pamphlet on Migrant Farm Labor.

WILMOT D. READ,
Chairman.

Study of Medical Core Committee

In discussing the question of medical care there is one thing we must keep clearly in mind. The total cost of medi-

cal care in this country is around fifteen billion dollars a year. To throw that into politics with central control will establish a political lever that will develop into totalitarian control. We must do some clear thinking now or we will do wishful thinking afterwards.

In considering the various systems of medical care that have been inaugurated in various countries it is well to remember that each system was developed in accord with the ideology of the country concerned; it dovetails with the political, social and economic ideas of the people involved. Also, in estimating the benefit of any particular system in any country, the estimate is made by comparison with what they had before that system was adopted.

The group with an independent income is receiving medical care. The large group between this and the indigent is the group that particularly concerns us. The problem is very complicated and will not easily be answered. No emergency exists.

We wish to present the following problems for consideration:

1. Change in the sense of values. With development of science there naturally occurred a change in the social and economic aspects of life. Problems such as sanitation and prevention of disease were too big to be handled by each individual and they became problems for the state. The question has continued to develop about the state furnishing complete medical care but so far it has not been asked to furnish them. Is the state finally going to furnish all the necessities, housing, clothing, food and medical care and the individual be responsible only for his pleasure?

2. Cost of medical care. The character of service rendered by the doctor has changed more during the past hundred years than has that of transportation. Every year diagnostic and other items will be used more and more and relatively the cost of the doctor decreases. The setting up of some means to take care of these items is the most pressing necessity.

3. The establishment of a corps of visiting nurses would greatly reduce the cost of medical care. Many patients now sent to the hospital could be taken care of at home. This would greatly reduce the number of calls the doctor would have to make. Would be of great educational value.

4. In the care of the indigent, appointment of physicians by county commissioners should be from recommendations made by the county medical society.

5. We should keep in mind that the question of good health is of much more interest in the abstract than in the concrete. We should not think of any system that will provide an Utopia; it must merely take care of the necessities.

8. It is important, in establishment of any system of medical care that the money is not dissipated on social work, piling up of statistics and what not. The money should go for relief of the ill, not for providing employment.

ALBERT P. DURYEE,
Chairman.

Advisory Committee to State Department of Health and Social Security Department

In December, 1939, the State Department of Health and the State Department of Social Security, in consultation with the Advisory Committee from the State Medical Association, decided to conduct a study of Medical Care of the Needy. Since this study was to be concerned solely with the medical care furnished under the social security laws of the state, it was arranged that it would be conducted in the Department of Social Security and that the Department of Health would make the services of a physician available for the study.

As outlined, it was proposed to study the following items: The population eligible for care and the population receiving care, medical services provided, cost of medical services, medical care facilities available and those needed, administrative methods, requirements for a balanced adequate program.

The physician assigned to the study began work in January, by first reviewing: The background of public medical care in the state, expansion and development of the program as a part of the welfare program, present organization under the Laws of 1939 of the State Department of Social

Security and the County Welfare Departments with reference to the program of medical care.

The accumulated records and statistical data in the department have been studied. As the State Department of Social Security did not have a physician on the staff, it was arranged early in the period of the study that the physician assigned should also serve as a consultant to the state and county welfare departments on medical care.

During the past four months, visits have been made to 30 of the 39 counties of the state, to study the organization, services, medical facilities and medical problems at first hand.

Schedules were drawn up covering the essential information to be gathered in the counties. Separate schedules were made for the general program of medical care, for the county institutions and for private hospitals. Facts were gathered from the Welfare administrator, physicians participating in the program, other physicians in the community, health officers. The schedule contained facts on type of program organization, relationship with the medical profession, personnel engaged in the program, services rendered, including dentistry and drugs, costs of services, extent to which the program meets the needs of the community. All of county hospitals, tuberculosis sanatoria and infirmaries were visited and data collected on buildings, equipment, staff, types of care, adequacy of the institution to meet the demands for care, and its needs.

Data were collected on use of private hospitals and several private hospitals were visited, although detailed data were not recorded as in the case of county institutions.

Of the nine counties not studied locally, one or two will be visited soon. The others are small counties, from which sufficient information has been gathered by correspondence. Work is now in progress on a complete detailed outline of the study which will be finished in the near future. A part of the introductory and descriptive material has already been written.

A study of medical care is limited by the nature of the statistical data available. The monthly reports of the counties to the State Social Security Department provide data on costs and on certain services, particularly those in institutions. These data serve their purpose to the Department but do not give enough information to adequately evaluate a medical care program.

After a discussion of this matter, it was decided that a record system should be instituted that would give more accurate information on the number of persons in the relief population by (1) those receiving material assistance. (2) those receiving only medical assistance; the number of services rendered to each group monthly, to be given by types of physicians' services, dental care, nursing care and miscellaneous services; institutional care by type of care and by days care rendered the two assistance groups; cost data broken down in more detail according to service and as far as practicable according to assistance groups.

When such information is available it will be possible to relate the amount of services and the cost of such services to a unit number of relief population per unit of time. Also it will be possible to show the relationship between costs of different services.

Such information is essential to guidance and planning of a program of medical care. This information, when obtained with reasonable accuracy, can be used to estimate the service and cost needs of an adequate program of medical care for relief population of known size.

JOHN F. LECOCO,
Chairman.

Group Hospitalization Committee

The term "group hospitalization" originally referred to plans for supplying hospitalization to definite, specified groups of the population on a prepayment basis. It has gradually come to include, by implication at least, cooperative organizations of hospitals, contracts for coverage of families and individuals, hospitalization insurance, various phases of federal or state hospitalization, and even some questions of medical care. Interests of the medical profession and the hospitals are so intimately interwoven and they are so mutually interdependent that organized medicine should be thoroughly conversant with the many phases

and developments of the movement and stand ready at all times to assist the hospitals with intelligent advice, counsel and cooperation.

In order to promote closer cooperation between this Association and the Washington State Hospital Association, meetings of your Committee this year have been joint ones, with the Group Hospitalization Committee of the Washington State Hospital Association. Development of group hospitalization on a state-wide basis is complicated by the fact that hospitalization by many agencies is already in effect and, contrary to the practice in most of the eastern states, is often combined with medical care. The problems of medical care and of hospitalization, although intimately related, are definitely different.

The more important of the agencies mentioned are the medical service bureaus, privately owned clinics and hospital associations, contractors, industrial plants, the State Department of Social Security, and insurance companies. These have already enrolled a great proportion of the most desirable prospects for any group hospitalization scheme, the large steadily employed groups, leaving only the small employed, undesirable groups, and individuals.

The situation is further complicated by questions of legality, and it seems probable that an enabling act is desirable for regulation and control of hospitalization plans to provide for the protection of all concerned, the patient, the hospital, and the medical profession, and to minimize or eliminate political interference. Michigan already has such an act which may serve as a guide.

Prepayment plans for hospitalization are considered insurance in many states and so the status in this state should be definitely determined. The approval and cooperation of the State Insurance Department will, in general, give added prestige and stability to any plan which may be instituted.

The hospitalization projects of the government are outlined in the Wagner-George Bill which has replaced the pernicious Wagner Bill. This has apparently been shelved for the present but may be brought up at any time. The American Medical Association is following closely the progress of federal hospitalization activities and information and advice may be obtained from Dr. Leland at all times. This Committee should be prepared to make recommendations to the State Director of Health regarding appointments and other details which may be subject to local variation and control.

The extent of the popular demand for some form of group hospitalization is difficult to estimate. In many instances there seems to be an element of propaganda involved which apparently is fostered by labor organizers. Rumors of plans by such organizations and also by the State Department of Labor and Industries to build and manage their own hospitals are occasionally heard. Such a development, while perhaps possible, would probably not be on a sufficiently large scale to affect the general situation appreciably.

The question of hospital contracts for families and individuals is constantly being agitated. This has been studied by the medical service bureaus and the general conclusion is that such contracts would be undesirable business. There is not yet sufficient actuarial experience available to determine essential details.

Any state-wide plan for group hospitalization would logically include provisions for our agricultural population, and this type has not proven desirable, even when the plans have had federal assistance, as in the Farm Service or Resettlement schemes.

Meetings of the joint committee have demonstrated clearly the necessity and value of cooperation between the organized medical profession and the hospitals in the development of any group hospitalization plans.

Your Committee recommends its continuation and suggests that it include contact members from the service bureaus and from the Legislative Committee. It is further recommended that the Legislative Committee, in cooperation with the appropriate committee from the Washington State Hospital Association, prepare an enabling act for presentation to the next legislature. Action on group hospitalization would properly be initiated by the hospitals, but there should be the closest understanding and cooperation between the two state organizations.

It is also recommended that the Committee keep informed on developments in connection with the Wagner-George Bill and be prepared to cooperate with the State Department of Health in recommendations for appointments and other details of local control.

H. E. COE,
Chairman.

Woman's Auxiliary

The Woman's Auxiliary to Washington State Medical Association is now closing its ninth year, and I am pleased to report the accomplishments of our organization through the loyal cooperation of the entire membership.

Program. In accordance with the wish of the National Board, the Public Relations department has received the major attention. Intensive self-education programs on the National Health Program, the platform of the American Medical Association, cancer, tuberculosis, communicable diseases, maternal and child welfare were carried out.

Public Relations. Three counties sponsored four open forum meetings with the cooperation of local physicians. The attendance indicated a lively interest in public health and maternal and child welfare. All other counties held at least one public relations program for the laity at which literature was distributed. Members were active in securing speakers from the speakers bureau for lay organizations.

Cancer. Aid has been given to the Woman's Field Army of the American Society for the Control of Cancer in organizing new units and in drives for membership. Walla Walla County has sponsored three radio programs on this subject. All other counties had open meetings or one program of Education for the Control of Cancer.

Legislation. Study of national legislation and court decisions pertaining to the American Medical Association has been made by all units. All members are registered voters and exercise their franchise. Each member has a copy of "On the Witness Stand." We await instruction from our advisers for definite action in the coming election.

Hygeia. The achievement of our Hygeia Committee is one of which we are indeed proud. With a total of 967 5/12 subscriptions, Washington won the National first prize of \$25 and Chelan and Clark second and third prizes respectively for counties. King and Cowlitz won honorable mention and five others exceeded their quota. *Hygeia* has been placed in more schools than ever before due to gift subscriptions by the county auxiliaries. More than 1800 copies have been distributed at county fairs.

Exhibits. The state exhibit is still being used by lay groups. An exhibit was sent to the national convention at New York, and there is one at the state meeting in Tacoma.

Organization. There are thirteen organized auxiliaries representing eighteen counties, with a membership of 724, an increase of 33 over 1938-1939. With a total of 23 organized medical societies, the Auxiliary is about 56 per cent organized. We are still striving for a greater membership.

Press. Articles by the state chairman have appeared each month in *NORTHWEST MEDICINE*. Local chairmen have had a monthly column in the bulletins of the counties publishing them. Clippings files of articles pertaining to auxiliary activities have been maintained by the state and county chairmen.

Historian. A complete history of the auxiliary in our state from 1932-1940 was compiled by the president for the National Historian.

Philanthropies. A philanthropic fund was started at the beginning of the year with approval of the advisory council. Each county has its local project, as supplying delicacies and a dressing table to tuberculosis sanatoria, layettes, reading material, pictures, vases and curtains to hospitals, sewing for childrens' homes and aiding in drives for funds for tuberculosis seals and the Red Cross.

I have visited twelve state auxiliaries, nine of those on their regular meeting days. In May, 1939, as State President-Elect, I attended the National Convention at St. Louis.

Two state news letters were published and distributed to the 724 members. The first contained outlines of work for the year for the various chairmen, and the second, reports of the work accomplished and the plans and program for the State Meeting.

On behalf of the Auxiliary I wish to thank Washington

State Medical Association for the splendid gift of \$150 and the personnel of the Central Office for their generous assistance in more effectively carrying out our program.

MRS. LUMAN S. ROACH,
President

Necrology Committee

Whereas: Twenty of our members have passed to the Great Beyond since the 1939 meeting of this Association, be it

Resolved: That the House of Delegates recognize the demise of these former fellow members and instruct the Secretary-Treasurer to inscribe with honor and regret the following names on the records of the Association:

O. D. Wescott, Walla Walla, age 68, died August 29, 1939.
C. C. Kehl, Seattle, age 48, died September 21, 1939.
E. E. Efner, Oroville, age 64, died October 6, 1939.
R. J. Skaife, Colfax, age 78, died October 29, 1939.
W. W. Bartine, Seattle, age 73, died November 2, 1939.
A. G. Greenstreet, Seattle, age 77, died January 1, 1940.
Frederick Cook, Seattle, age 62, died January 3, 1940.
T. R. Loer, Seattle, age 71, died January 4, 1940.
J. L. Hutchinson, Tacoma, age 63, died January 9, 1940.
P. C. Irwin, Seattle, age 64, died February 12, 1940.
J. A. Bowles, Tacoma, age 59, died February 2, 1940.
H. H. Hamlin, Seattle, age 44, died March 19, 1940.
A. W. Hackfield, Seattle, age 39, died April 26, 1940.
E. Weldon Young, Seattle, age 71, died May 9, 1940.
A. C. Brown, Stanwood, age 76, died May 18, 1940.
LeGrand Spaulding, Kennewick, 66, died June 17, 1940.
W. F. Edmunds, Seattle, age 64, died July 3, 1940.
F. T. Hyde, Port Angeles, age 68, died June 2, 1940.
R. E. Golden, Walla Walla, age 65, died June 30, 1940.
C. D. Hunter, Tacoma, age 60, died August 5, 1940.

G. W. CORNETT,
Chairman.

By-Laws Committee

The By-Laws Committee made a partial report in 1939, recommending certain amendments to the By-Laws in order to make the working conditions more definite. The Committee was continued to bring in the completed report.

The Constitutions and By-Laws of many states were studied, and a report was prepared providing only four by-laws. About the time this was completed, we discovered that the Secretary-Manager of the American Medical Association was desirous of having the different state associations adopt Constitutions and By-Laws that are basically the same and we also discovered that the Legal Department of the American Medical Association had been requested to draw up a Constitution and By-Laws for our use, which they had done. A copy of this was sent to us, and after our Committee had studied it, they requested Dr. West to send Mr. T. V. McDavitt, of the Legal Department, to Seattle so that we could confer with him in preparing our report.

With Mr. McDavitt, and Mr. Laube, our attorney, and Mr. Anderson, we had numerous conferences, out of which came a Constitution and By-Laws that we thought would be satisfactory. We presented certain sections of the Constitution and By-Laws, in which there might be radical differences of opinion, to the Board of Trustees for their advice.

We present to you, for your consideration, this draft of a Constitution and By-Laws for the Washington State Medical Association, which, with one or two exceptions, is as it was prepared by the By-Laws Committee before being presented to the Board of Trustees. As now presented to you, it is as has been amended through the advice of the Board of Trustees.

Heretofore, we have not had a Constitution. Practically all state medical associations have both a Constitution and By-Laws, and so far as this Committee knows, there is practically no difference working under a Constitution and By-Laws, than under By-Laws alone, excepting that amendments to the Constitution must lie over one year before being acted upon.

We are the first state association to receive this assistance from the Legal Department of the American Medical Association.

C. W. SHARPLES,
Chairman

The House of Delegates of Washington State Medical Association, meeting in Tacoma at its Fifty-first annual session August 28, 1940, unanimously adopted the following new Constitution and By-Laws.

CONSTITUTION

ARTICLE I — NAME

The name of this Association is the Washington State Medical Association.

ARTICLE II — OBJECTS

The objects of this Association are to promote the art and science of medicine and the betterment of public health.

ARTICLE III — MEMBERSHIP

SECTION 1. *Classes of Members.* This Association consists of (a) active members, and (b) honorary members.

SEC. 2. *Active Members.* The active members of this Association are all the active members in good standing in the component societies from whom or on whose behalf the required annual dues or special assessments have been received by the Secretary-Treasurer of this Association in accordance with the applicable provisions of the By-Laws.

SEC. 3. *Honorary Members.* The honorary members are all those active members who have been in good standing in this Association for thirty years or more and who are seventy or more years old. Honorary members have all the rights and privileges of active members, but they shall not be subject to the payment of annual dues and special assessments.

ARTICLE IV — COMPONENT SOCIETIES

SECTION 1. *Defined.* The component societies of this Association consist of those medical societies representative of the medical profession of a county or group of counties which hold charters from this Association that are in full force and effect.

SEC. 2. *Life of Charters.* All charters issued by this Association continue in full force and effect until revoked as provided in the By-Laws. This Association, however, shall have the right, without revoking a charter, to suspend some or all of the rights and privileges of a component society for the causes and in the manner provided in the By-Laws.

SEC. 3. *Issuance of Charters.* a. As soon as practicable, but not later than six months after the adoption of this Constitution, the Board of Trustees shall issue or reissue, as the case may be, charters as component societies to such local medical societies as prior to the adoption of this Constitution were recognized as component societies of this Association. The charters so issued or reissued, as the case may be, shall be issued in the form and manner provided in the By-Laws. Pending the issue of the charters here called for, existing component societies shall possess and may exercise all the rights and privileges of component societies.

b. After issuance of the charters provided for immediately above, the Board of Trustees, with the approval of the House of Delegates, may charter as a component society a medical society representative of the medical profession of a county as circumstances may dictate or as seems desirable. No charter shall be issued with respect to a county, in which a component society previously chartered has territorial jurisdiction except that, whenever an increase in membership warrants, an additional component county society may be chartered within the previous territorial jurisdiction of an existing component society composed of two or more counties.

SEC. 4. *Limitations.* Component societies are subject to the following limitations:

a. The Constitution and By-Laws of this Association, and the amendments thereto that may be adopted in the future, are the supreme law of the component societies. Insofar as the Constitution or By-Laws of a component society are contrary to or inconsistent with the Constitution or By-Laws of this Association, the Constitution or By-Laws of the component society are void and of no effect.

b. The Constitution or By-Laws or any amendment thereto of a component society shall not become effective until approved by the Board of Trustees of this Association. If a proposed Constitution or By-Laws or an amendment thereto is disapproved by the Board of Trustees, the affected society may appeal to the House of Delegates at its next regular

session and the Board of Trustees must act on the matter according to the instructions of the House.

c. A component society may admit to active membership or continue in such membership only such American citizens as (1) hold the degree of doctor of medicine or bachelor of medicine, which, if issued subsequent to 1913, was issued by an institution approved at the same time of the issuance of the degree by the Council on Medical Education and Hospitals of the American Medical Association, except that a component society may in its discretion continue in active membership a person not possessing the qualifications just stated who was an active member in good standing of the society prior to the adoption of this Constitution, (2) are licensed to practice medicine and surgery in the State of Washington, (3) reside or practice in the territorial jurisdiction of the society, except as the By-Laws of this Association may otherwise provide, (4) abide by the Code of Ethics of the American Medical Association, and (5) do not practice or claim to practice any school or system of sectarian medicine or healing.

d. A component society may expel, suspend, censure or otherwise discipline a member for such causes and under such procedure as is stated in the society's constitution and by-laws, provided a copy of the charges preferred against the member is served on him, he is given at least ten days to prepare his defense, and a hearing is held on those charges at which he is afforded a full opportunity to be heard in his own defense, to present witnesses and other evidence in his behalf and to cross-examine witnesses and to rebut evidence presented to sustain the charges. However, a component society, if its constitution or by-laws so provide, may drop from membership any member in arrears with respect to dues for six months or more without giving notice or holding a hearing as above provided. A member against whom disciplinary action has been voted by a component society shall have the right to appeal to the Board of Trustees of this Association and eventually to the Judicial Council of the American Medical Association under such rules as those two bodies may adopt. However, the disciplinary action voted by the society shall remain in full force and effect during the pendency of such appeal or appeals.

ARTICLE V — OFFICERS

SECTION 1. *Officers Listed.* The officers of this Association shall be the President, President-Elect, Vice-President, Speaker of the House of Delegates, Secretary-Treasurer, Assistant Secretary-Treasurer, and the eight elected Trustees, four of whom shall be elected from each trustee district as hereinafter provided.

SEC. 2. *Tenure of Officers.* The House of Delegates at its regular annual session shall elect the following officers to serve the terms indicated:

President-Elect	One Year
Vice-President	One Year
Assistant Secretary-Treasurer.....	One Year
Speaker of the House of Delegates.....	One Year
Four Trustees, two from each of the two trustee districts as hereinafter provided.....	Two Years

These officers shall assume office at the close of the last general meeting of the annual session at which they were elected and shall serve until the corresponding session of the annual session next following their election, except in the case of Trustees, the second annual session next following their election. At the close of the last general meeting of the annual session next following his election, the President-Elect shall assume the office of President, and serve as such until the corresponding period of the following annual session or until his successor assumes office. At the annual session, at the conclusion of which the term of the Secretary-Treasurer is to expire, the House of Delegates shall elect a Secretary-Treasurer to serve a term of three years. The Secretary-Treasurer shall assume office at the close of the last general meeting of that session and shall serve until the corresponding period three annual sessions hence.

SEC. 3. *Vacancies—How Filled.* If before the expiration of the term for which he was elected the President or President-Elect dies, resigns, is removed, or becomes disqualified, the Vice-President shall succeed to the office vacated, with all the prerogatives and duties pertaining to the office as though he

had been elected President-Elect in the first instance. Vacancies created by the death, resignation or removal of other officers and vacancies in contingencies not here provided for shall be filled by appointment by the Board of Trustees for the unexpired portion of the term or, in the case of vacancy in the office of a Trustee or the Secretary-Treasurer, until the next session of the House of Delegates, at which time the House shall elect for the unexpired portion of the term.

SEC. 4. *Officers—Qualifications.* To be eligible for election or appointment as an officer of this Association, a member must possess the qualifications required by the By-Laws.

ARTICLE VI — HOUSE OF DELEGATES

SECTION 1. *General Powers.* All legislative powers of the Association, including the power to alter, amend or repeal this Constitution and the By-Laws, are vested in and reside in the House of Delegates, which alone shall have authority to determine the policies of the Association. It shall elect (1) all the officers, (2) such delegates to the American Medical Association as the Association may be entitled to, and (3) the elected Committeemen.

SEC. 2. *Composition.* The House of Delegates shall be composed of (1) delegates elected by the component societies, each component society being entitled to elect one delegate for each fifty active members in good standing or fraction thereof, who enjoy all the rights and privileges of membership, provided each component society shall be entitled to elect at least one delegate, and (2) ex officio, the officers of the Association enumerated in Article V, Section 1, of this Constitution.

ARTICLE VII — BOARD OF TRUSTEES

SECTION 1. *General Powers.* The Board of Trustees shall carry out the mandates and policies of this Association as determined by the House of Delegates. Subject only to the provisions of this Constitution or By-Laws and all resolutions and enactments of the House of Delegates, the Board has full and complete power and authority to perform all acts and to transfer all business for or on behalf of the Association and to manage and conduct all the property, affairs, work and activities of the Association.

SEC. 2. *Composition.* The Board of Trustees shall consist of the President, President-Elect, Vice-President, the immediate past President, Speaker of the House of Delegates, Secretary-Treasurer, Assistant Secretary-Treasurer, Chairman of the Finance Committee, Chairman of the Committee on Medical Defense, Delegates to the American Medical Association and eight elected Trustees.

SEC. 3. *Trustee Districts.* The component societies, representative of the medical profession in the counties stated below, are designated as the trustee district indicated:

Eastern District. Lincoln, Okanogan, Douglas, Chelan, Grant, Asotin, Walla Walla, Franklin, Garfield, Columbia, Spokane, Ferry, Stevens, Whitman, Adams, Kittitas, Klickitat, Benton, Yakima and Pend Oreille.

Western District. King, Kitsap, Clallam, Pierce, Lewis, Clark, Cowlitz, Wahkiakum, Whatcom, Thurston, Mason, Pacific, Skamania, San Juan, Skagit, Snohomish, Island, Grays Harbor and Jefferson.

Four of the elected Trustees must be from each district.

ARTICLE VIII — SESSIONS AND MEETINGS

SECTION 1. *Sessions of the Association.* The Association shall hold an annual session at such place as the House of Delegates may designate and on such days and at such times as the Board of Trustees may determine.

SEC. 2. *General Meetings.* During the annual session there shall be held at least one general meeting open to all registered members and guests.

SEC. 3. *Sessions and Meetings of the House of Delegates.* The regular session of the House of Delegates shall be held during some part or parts of one or more of the days set for the holding of the Association's annual session. The House of Delegates shall be called into special session at any time during the year by the President on the written request of fifteen members of the House of Delegates.

SEC. 4. *Meetings of the Board of Trustees.* The Board of Trustees shall meet immediately prior to or during the Association's annual session at such time or times as it may be called to meet by the President. The President may call a special meeting of the Board on his own motion and must

call a special meeting on the written request of nine members of the Board.

ARTICLE IX — FINANCE

SECTION 1. *Raising of Funds.* Funds for conducting the affairs of the Association may be raised (1) by such annual dues from members of this Association as the By-Laws may provide; (2) by such special assessments on members as the House of Delegates may determine; (3) by voluntary contributions, devises, bequests and other gifts; and (4) in any other manner approved by the House of Delegates.

SEC. 2. *Fiscal Year.* The fiscal year of this Association and of its component societies is from January 1 to December 31 inclusive.

SEC. 3. *Supervision.* Supervision of the funds, investments and expenditures of the Association is vested in a Finance Committee which shall consist of three members, one of whom shall be elected annually for a three-year term by the House of Delegates from nominations made by the Speaker of the House of Delegates or made from the floor. The Committee shall annually designate one of its members to serve as chairman. The Committee itself, or, if the By-Laws so provide, jointly with such committee as may be provided in the By-Laws, shall annually prepare a budget of the Association's expenditures for the ensuing year, which shall be presented to the Board of Trustees for its approval at a meeting of the Board subsequent to the annual session but prior to the end of the fiscal year.

SEC. 4. *Expenditure of Appropriations.* No officer or committee shall expend any money not provided in the budget as adopted or spend any money in excess of the budget allotment, except by order of the Board of Trustees. Unexpended balances remaining in the budget allotment at the end of the fiscal year are cancelled automatically.

ARTICLE X — ETHICS

The Code of Ethics of the American Medical Association in force at the time of the adoption of this Constitution and as it may from time to time thereafter be amended by the American Medical Association, are the Principles of Medical Ethics of this Association and are binding on its members and on its component societies.

ARTICLE XI — FORM OF ORGANIZATION

This Association is a corporation, not for pecuniary profit, incorporated in July, 1909, under the laws of the State of Washington. If in the future the House of Delegates deems the course advisable, the Association (1) may be incorporated under some other law of the State or Washington relating to or applicable to corporations not for pecuniary profit other than the law under which it is now incorporated; or (2) may have its corporate status dissolved and may function as an unincorporated association or under such other form of organization as it deems best. It is the intent of the members of this Association, having such status at the time of adoption of this Constitution or obtaining such status thereafter, that their respective rights and duties as members of this Association shall be determined and governed by the provisions of this Constitution and By-Laws. In the event that any provision of this Constitution or the By-Laws is held to be in conflict with, contrary to, or beyond the powers conferred by the Articles of Incorporation or other integral part of the so-called charter of the corporation, if necessary to attain the end and effectuate the intent expressed in the preceding sentence, the corporate status of this Association may be dissolved.

ARTICLE XII — AMENDMENTS

This Constitution may be amended in whole or in part at any annual session by a two-thirds vote of all delegates present and voting, provided that prior to that time the amendment (1) has been presented in writing at open meeting of the House of Delegates at the previous annual session, and (2) thereafter has been published during the ensuing year in at least two issues of the Association's official journal.

BY-LAWS

CHAPTER I — COMPONENT SOCIETIES

SECTION 1. *Charters—Contents.* All charters issued by this Association shall be signed by the President and the Secretary-Treasurer and shall state, among other things, (1) the name of the society, which name, except as is provided in

the section immediately following, shall include the name of the county or counties over which the society will have territorial jurisdiction, (2) the territorial jurisdiction of the component society, and (3) that the authority and rights of the component society are limited specifically by the provisions of Article IV, Section 4, of this Association's Constitution.

SEC. 2. Charters—When Issued. a. Charters shall be issued by the Board of Trustees as soon as practicable after the adoption of the Constitution and these By-Laws to the component societies of this Association recognized as such at the time of the adoption of the Constitution. While these charters are to be issued as a matter of course to such component societies by the Board of Trustees, the Board may, in its discretion in issuing a charter, designate the affected component society by a name descriptive of the county or counties over which the society has territorial jurisdiction.

b. After the issuance of the charters provided for immediately above and under the conditions stated in Article IV, Section 3, of the Constitution, the Board of Trustees may recommend to the House of Delegates that a charter as a component society be issued to a medical society, existing or to be formed, representative of the medical profession of a county. If the House of Delegates approve, the Board of Trustees shall issue a charter.

SEC. 3. Suspension of Rights and Privileges. The Board of Trustees may, in its discretion, revoke the charter of or suspend any or all the rights and privileges of a component society, which in the opinion of the Board:

a. Fails willfully or negligently to pay prior to the ensuing January 1, an assessment, regular or special, levied on it;

b. Fails to investigate any charges preferred against any of its members, which, if true, would be cause for society discipline or fails to institute or to conduct in a proper manner disciplinary proceedings where a complaint has been filed in proper manner and form;

c. Fails to execute a disciplinary sentence imposed on a member as a result of disciplinary proceedings conducted in accordance with the requirements of Article IV, Section 4 (d) of the Constitution;

d. Willfully refuses or fails to obey or follow policy, rule of conduct, or course of action regularly and validly enunciated by the House of Delegates, whether appearing in the Constitution, the By-Laws, or by resolution; or

e. Commits any act which is contrary to or inconsistent with the objects of this Association.

The Board of Trustees shall have jurisdiction to revoke a charter or to suspend any or all of the rights of a component society only, if

a. A hearing is held, at which the accused society has a full and complete opportunity to be heard in its own defense;

b. At least two weeks prior to the hearing notice is given the affected society as to the time and place of the hearing and as to the alleged derelictions of the Society which will be the subject of the hearing; and

c. Two-thirds or more of the Board of Trustees vote to suspend rights or privileges or to revoke the charter of the affected society. The Board in its decision may provide conditions under which the affected society will be restored to good standing in this Association and can resume the exercise of all the rights and privileges of component societies.

A component society whose rights or privileges or whose charter has been suspended or revoked by the Board of Trustees shall have the right to appeal to the House of Delegates at its next session and the decision of the House of Delegates in the matter shall be final. Pending the determination of the House of Delegates, the decision of the Board of Trustees shall be given full force and effect.

SEC. 4. Delegates—Number for Each Society. Each component society is entitled to elect one delegate and alternate to the House of Delegates of this Association for each fifty active members, or fraction thereof, of the component society who are active or honorary members of this Association. Regardless of the total number of active members, each component society is entitled to elect at least one delegate and alternate.

SEC. 5. Delegates—Selection. The delegates and alternates to the House of Delegates of this Association shall be selected by the component societies at their respective annual meetings, which shall be held prior to May 1, for one year

terms, which run from the meeting at which they were elected to the next ensuing annual meeting of the component society. The secretary of a component society must give the active members of the society at least ten days' written notice of the time and place of the holding of an annual meeting, at which officers and delegates will be elected. Within ten days after the holding of an annual meeting and its resulting elections the secretary of the component society shall certify the results of the election to the Secretary-Treasurer of this Association.

If a delegate elected by a component society dies, resigns, ceases to be a member in good standing of the society, becomes disabled, or for any other reason cannot assume the duties of his office, or will be absent from the session of the House of Delegates, the president of the component society may appoint another active member to serve in his stead during the balance of the term or during the disability or absence, as circumstances may call for. As soon as practicable after the appointment, the president of the component society shall notify the Secretary-Treasurer of this Association of his action.

SEC. 6. Secretaries' Duties. The secretary of each component society shall keep a roster of its members, grouping the members according to the type of membership held. With respect to each member, the roster shall contain the full name, address, date of birth, professional college and date of graduation, the date the member was licensed to practice in this state, and such other information as the Secretary-Treasurer of this Association may require. The secretary shall also keep a list of licensed physicians practicing within the jurisdiction of the society who are not members. In keeping such records the secretary shall note any change in the personnel of the profession by death or by removal and shall notify the Secretary-Treasurer in such form as he may require. The secretary shall forward by the tenth of each month to the Secretary-Treasurer of this Association dues and assessments collected from members in the preceding month, together with such data as may be required by the Association. He shall promptly notify the Secretary-Treasurer of losses of memberships, giving the causes in individual cases.

SEC. 7. Qualifications of Members. Subject to the provisions of Article IV, Section 4, of the Constitution, each component society is the sole judge of the qualifications of its members and the acceptance of applicants is wholly at the pleasure of the component society. A component society may create classes or types of membership in addition to the classes of membership in this Association but only such members of the component society as possess the qualifications required by the Constitution and these By-Laws are members of this Association.

SEC. 8. Membership Where No Component Society Exists. Any doctor of medicine residing in a county with respect to which no component society has territorial jurisdiction may make application for membership in the component society most convenient to the county in which he resides, and if otherwise qualified, may be elected to membership therein.

SEC. 9. Membership in Society of County Other Than That of Residence. Any doctor of medicine living on or near a county line may be elected to membership in that component society whose meetings will be most convenient for him to attend, if the action is agreeable to the component society embracing the county in which the physician resides.

SEC. 10. Membership Where Major Office and Residence Are in Different Counties or Districts. Any doctor of medicine, who has his major office or professional practice in one county and resides in another county, has the option of applying for membership in the component society having jurisdiction of either county, if the action is agreeable to both affected component societies.

SEC. 11. Membership as Affected by Transfer of Residence. A member who changes his residence from the county through whose component society he holds membership in this Association to another county, in which there is a different component society, is eligible for membership in the component society of his new residence on the presentation of a transfer card, and satisfactory evidence that his dues have been paid in full and that he is otherwise in good standing in the component society in which he holds membership. Such a member, however, shall lose membership

in this Association one year after such a change of residence unless he makes proper application and is accepted for membership in the society of the county or district to which he has moved.

SEC. 12. *Transfer Cards.* When a member in good standing in a component society moves to another county or district he shall, on request, be given a transfer card without cost. He must assume such financial obligations as shall be deemed proper by the component society to which he is transferred, and to which he makes application for membership by transfer.

SEC. 13. *Membership in New Societies.* In the event a component society is formed and issued a charter, all active members of the Association within that jurisdiction automatically become members of that society.

CHAPTER II — MEMBERS — RIGHTS AND DUTIES

SECTION 1. *Rights of Members.* Active members and honorary members who are in good standing are entitled to all of the rights, benefits and privileges of this Association, including the right to register at sessions of the Association, to attend and participate in general meetings held therein, to vote, to hold office, subject to the qualifications set by these By-Laws for particular offices, and to receive one copy of the Association's official publication as issued. When a member resigns or loses his membership in a component society, he forfeits all rights and title to any share in the privileges and property of this Association.

SEC. 2. *Good Standing.* A member is not in good standing within the meaning of the Constitution and these By-Laws:

a. Unless in the case of an active member payment of dues and special assessments on his behalf have been received by the Secretary-Treasurer as provided in these By-Laws.

b. If he has been suspended or expelled by his component society, regardless of whether he has pending an appeal from such disciplinary order with the Board of Trustees of this Association or to the Judicial Council of the American Medical Association, or

c. If his license to practice in this or any other state has been revoked and has not been subsequently restored on appeal.

SEC. 3. *Dues.* Each active member on or before January 1, of the year for which the dues in question are payable, shall pay as annual dues to this Association \$15. Said dues shall be paid to the treasurer of the member's component society, who shall by the tenth of each month forward to the Secretary-Treasurer of this Association dues collected from members during the preceding month. Any member, with respect to whom dues for that year have not been received by the Secretary-Treasurer by May 1, shall *ipso facto* stand suspended from membership in this Association until such time as the current dues are received and the records of the Association's central office with respect to the payment of dues shall be prima facie evidence of the correctness of the facts therein stated. The dues of a physician newly elected to active membership in a component society shall for the year of his election be prorated according to the month of his election. However, such physician shall not be an active member of this Association until the dues so prorated are received by the Secretary-Treasurer.

CHAPTER III — SESSIONS OF THE ASSOCIATION

SECTION 1. *Right of Members to Participate In.* All members of the Association may attend and, except as otherwise limited, may participate in the annual session held by the Association, subject only to such reasonable parliamentary rules as may be adopted. Members may also attend meetings of the House of Delegates, except when the House of Delegates is in executive session. Except with the consent of the House of Delegates, however, no member not a delegate may have the privilege of the floor.

SEC. 2. *Registration Required.* Before a member can attend and participate in proceedings or activities of the annual session he must register, under such procedure as the Secretary-Treasurer may prescribe, and obtain a badge which will be issued when the fact of membership is verified by reference to this Association's roster.

SEC. 3. *Guests.* The privilege of attending the annual session may be extended to guests under such conditions as the Secretary-Treasurer may determine.

SEC. 4. *Programs.* So far as is practicable, the order, exercises, papers and discussions, as set forth in the official program, shall be followed from day to day until it has been completed.

SEC. 5. *Length of Papers or Addresses.* No address or paper read before a general or section meeting, except those of the President and invited guests, shall occupy more than twenty minutes in its delivery. In the discussion following a paper or address at such a meeting no member shall be permitted to speak longer than five minutes on any subject without general consent.

SEC. 6. *Property and Papers.* All papers read before this Association shall be its property and immediately after being read shall be deposited with the secretary of the section or the Secretary-Treasurer of this Association. The authors of such papers shall agree that publication rights are reserved by the Association, and except by consent of the Committee on Scientific Work, the authors shall not cause them to be published elsewhere until after they have been published in this Association's official publication; provided, however, that if the Committee on Scientific Work decides that the paper will not be published in the Association's official publication, it may release the paper to the author for such disposition as he may determine; and provided, further, that distinguished and invited guests delivering addresses or papers before the Association may reserve the right to use the same as they may determine by previous arrangement with the Committee on Scientific Work.

SEC. 7. *Sessions of the House of Delegates and of the Board of Trustees.* During the annual session the House of Delegates and the Board of Trustees shall meet at such time and places as these By-Laws provide or as the respective bodies themselves determine.

CHAPTER IV — HOUSE OF DELEGATES

SECTION 1. *General.* The House of Delegates in its deliberation shall be presided over by the Speaker of the House of Delegates and in his absence by any delegate agreeable to it. Nineteen delegates shall constitute a quorum for the transaction of business. The Secretary-Treasurer shall record its proceedings.

SEC. 2. *Time of Meeting.* When the House of Delegates meets in regular session, it shall meet on the first and last days of the annual session. It may also meet at other times during the annual session than as above indicated. It shall meet during special sessions in accordance with the terms of the call.

SEC. 3. *Reference Committees.* The Speaker of the House of Delegates shall appoint from among its members such reference committees to which reports and resolutions may be referred as may expedite the business of the House. Such reference committees shall be limited to three members and may include committees on credentials, resolutions, annual reports, place of next annual session, tellers and judges of election, and such other committees as may be expedient.

SEC. 4. *Special Committees.* The House of Delegates may appoint committees composed of any members of the Association for special purposes or it may provide for such committees and authorize the appointment of members by the Speaker. Such committees shall report to the House of Delegates and members of such committees may participate in discussion and debate relative to their reports but unless committeemen are delegates they shall not have the right to vote.

SEC. 5. *Reporting of Proceedings.* When the House of Delegates meets in regular session the Secretary-Treasurer shall report a summary of its proceedings to each general session of the Association held prior to final adjournment of the annual session, and shall cause a summary of the proceedings to appear as soon as practicable in the Association's official publication.

SEC. 6. *Order of Business.* The House of Delegates in its sessions, whether in regular or special session, shall proceed in the order of business set by the Board of Trustees. At any meeting, however, the House by specific motion may change the order of business previously set by the Board and proceed thereunder in accordance with the terms of the motion.

SEC. 7. *Election of Officers, Delegates to the American*

Medical Association and Elected Committeemen. At the second meeting of the regular session of the House of Delegates the House shall elect officers, delegates to the American Medical Association, and committeemen elected by the House accordingly as terms are about to expire or as vacancies may exist. A majority of the votes cast shall be necessary to elect. In case no nominee receives a majority of the votes cast on the first ballot, the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of the votes cast, when he shall be declared elected.

SEC. 8. *Memorials and Resolutions.* No memorial or resolution can validly be issued in the name of the Association unless adopted by the House of Delegates, except as provided below in this section. All proposed resolutions must be submitted to the Secretary-Treasurer of the Association not later than thirty days before the next annual session of the House of Delegates and the Secretary-Treasurer of the Association must furnish each member of the House of Delegates and the secretary of each component society of this Association with a copy of each such resolution not later than twenty days before the next session of the House of Delegates. No other resolution may be considered without the unanimous consent of all members of the House of Delegates, present and voting.

CHAPTER V—BOARD OF TRUSTEES

SECTION 1. *Meetings.* The Board of Trustees shall meet at such times and under such circumstances as are provided in the Constitution. Nine members of the Board shall constitute a quorum.

SEC. 2. *Duties.* In addition to the duties and powers conferred on the Board by the Constitution, the Board shall act as the arbiter of the Association with respect to matters of ethics and questions involving the rights and standing of members, whether in relation to other members, to the component societies or to this Association. When its jurisdiction is invoked as hereinafter provided, it shall review instances in which disciplinary orders or measures have been adopted by a component society against a member.

SEC. 3. *Appeals in Disciplinary Proceedings.* A member of a component society, censured, suspended, expelled or otherwise disciplined by his component society, may appeal to the Board of Trustees within two months following the date of such disciplinary order for a determination of applicable questions of law and procedure but not of fact. Appeals shall be in writing and be filed with the Secretary-Treasurer of this Association. On the filing of an appeal the Secretary-Treasurer shall notify other members of the Board. Appeals shall be heard by the Board only after reasonable notice in writing of not less than ten days of the time and place of the hearing on the appeal has been given to the appellant member and the president and secretary of the component society. In every case of an appeal the Board, prior to any hearing on the appeal, shall exert all proper efforts at conciliation and compromise. The decision of the Board shall be final and bind the appellant member and the component society, unless the matter is carried timely to the Judicial Council of the American Medical Association.

SEC. 4. *Report to the House of Delegates.* At the first meeting of the House of Delegates at each annual session the Board shall make a report concerning the state of the Association and the work and proceedings of the Board for the preceding year.

SEC. 5. *Executive Secretary.* The Board of Trustees may elect an Executive Secretary to serve during its pleasure.

SEC. 6. *Compensation of Officers and Employees.* The Board shall fix the compensation of the officers, representatives and employees of the Association.

CHAPTER VI—DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

SECTION 1. *Selection and Terms.* The House of Delegates shall select such number of members of this Association to serve as delegates and alternates to the American Medical Association as this Association is entitled to by the most recent apportionment of the American Medical Association and shall elect them during such years and for such terms as will comply with the provisions of Chapter I, Section 2, of

the By-Laws of the American Medical Association, the pertinent portion of which reads:

"Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one-half, as near as may be, shall be elected each year."

Delegates and alternates serving at the time of the adoption of these By-Laws shall serve the terms for which they were elected and no vacancy shall be deemed to exist until the expiration of their elected terms.

SEC. 2. *Assumption of Office.* Delegates and alternates shall assume office immediately following their election and shall serve until their successors are elected and assume office.

SEC. 3. *Vacancy During Elected Term—How Filled.* If before the termination of his term, a delegate dies, resigns, ceases to be a member in good standing of this Association, becomes disabled, or for any other reason cannot assume or continue to assume the duties of his office or will be absent from a session or a meeting of the House of Delegates of the American Medical Association, the rights and duties of the office devolve on his alternate for the time being or for the remainder of the term as circumstances, in the opinion of the Board of Trustees, may indicate.

CHAPTER VII—OFFICERS—QUALIFICATIONS AND DUTIES

SECTION 1. *Qualifications.* All such members as have been members in good standing for at least the five years immediately preceding their election or appointment are eligible for election or appointment to office in this Association.

SEC. 2. *Duties—In General.* In addition to the rights and duties provided elsewhere in the Constitution and By-Laws, the officers shall have the rights and duties respectively assigned to them in the succeeding sections of this Chapter.

SEC. 3. *President.* The following rights and duties devolve on the President: (1) to preside at all general meetings of the Association; (2) to deliver an address at the annual session at such time as may be arranged; (3) to serve as Chairman of the Board of Trustees; (4) to act as the real head of the profession in the state and, when he deems it advisable or necessary, to visit personally, or by a representative of his own designation, the component societies and districts where it may be desirable to organize component societies, and (5) to perform such other duties and exercise such other rights as custom or parliamentary usage may require, or as the House of Delegates or the Board of Trustees may direct; (6) shall be ex-officio member of all committees. Whenever the President deems proper he may appoint a special committee to investigate any instance, in which he believes a component society has failed to or neglected to institute disciplinary action in a proper case. If after such investigation the committee believes a member of this Association to be guilty of conduct justifying disciplinary action and if the appropriate component society fails within a reasonable time after notice by the committee to institute disciplinary proceedings, the committee may prefer written charges in the form and manner specified by the component society's organic laws with the secretary of the component society involved and may, through a member or members of the committee, perform all acts that are reasonably necessary and proper in the prosecution of said charges.

SEC. 4. *Vice-President.* The Vice-President-Elect shall assist the President in the discharge of his duties and shall officiate for the President during his absence or at his request.

SEC. 5. *President-Elect.* The President-Elect shall by active aid to the President and by membership on the Board of Trustees and in the House of Delegates during the term of his office so conduct himself as to obtain the greatest possible acquaintanceship with the affairs and personnel of the Association so as to enable him efficiently to fulfill the office of President when he succeeds thereto.

SEC. 6. *Speaker of the House of Delegates.* The Speaker of the House of Delegates shall preside at the meetings of the House of Delegates, shall serve on the Board of Trustees, and shall perform such other duties as custom or parliamentary usage require.

SEC. 7. *Secretary-Treasurer.* The following rights and duties devolve on the Secretary-Treasurer: (1) to keep minutes of the proceedings of the general meetings of the Association,

of the meetings of the House of Delegates and of the Board of Trustees; (2) to be custodian of all records, books and papers belonging to the Association and of the Association seal; (3) to carry on the official correspondence of the Association, including such matters as notifying members of meetings, officers of their elections, committees of their appointments and duties and all notices required by the Constitution and By-Laws or by order of the House of Delegates or the Board of Trustees or by-law; (4) to provide for the registration of members and delegates at sessions of the Association and of the House of Delegates and to keep a record of such registration; (5) to keep a register of all component societies, their respective officers, and of all members of the Association and to transmit a copy of this list to the American Medical Association, notifying the Secretary of the American Medical Association monthly as to the names of new members and the names of those dropped from the roster during the preceding month; (6) to keep a card index register of all licensed practitioners of the state by county, noting the status of each in relation to the appropriate component society; (7) to charge on the books of the Association the dues of each member of the component societies and to demand and receive all funds due the Association, together with bequests and donations, to deposit promptly the same in a depository approved by the Finance Committee, and to keep a proper and accurate record thereof, as well as funds disbursed by the Association; (8) to pay out of the moneys of the Association only such amounts as are approved by the Executive Committee; (9) under supervision of the Finance Committee, to invest the funds under his care only in the highest grade bonds, such as the obligations of the United States and Canada, the obligations of the different states of this country or the provinces of Canada, underlying mortgages of trunk line railroads, or bonds of public utility companies and industrial corporations which are given a rating AAA by such investors' services as Moody's. Generally speaking, investment of these funds should be limited to securities qualified for investment in savings banks in the State of New York, Massachusetts, and Connecticut; (10) to subject his accounts to examination by a certified accountant as of December 31 of each year; (11) to render an account of his work, and of the state of the funds in his hands, and make a report of the same and of his work as Secretary-Treasurer to the House of Delegates at the annual session and to make in writing such other reports as the House of Delegates or the Board of Trustees may require; (12) to employ such assistants as may be authorized by the Board of Trustees; (13) to give bond in such sum as may be fixed by the Board of Trustees, the premium on such bond to be paid by the Association; and (14) to perform such other duties as may be required by custom or parliamentary usage or by the Board of Trustees or the House of Delegates and as Secretary of the Committee on Medical Defense.

SEC. 8. *Assistant Secretary-Treasurer.* The Assistant Secretary-Treasurer shall perform such duties as may be assigned to him by the Board of Trustees or by the House of Delegates and in the absence or disability of the Secretary-Treasurer to perform the duties of the Secretary-Treasurer.

CHAPTER VIII—STANDING COMMITTEES

SECTION 1. *The Standing Committees.* The standing committees of the Association consist of the following:

1. Committee on Scientific Work
2. Finance Committee
3. Committee on Public Laws
4. Committee on Public Relations
5. Executive Committee
6. Committee on Publication
7. Committee on Graduate Medical Education and Hospitals
8. Committee on Public Health and Sanitation
9. Committee on Industrial Health
10. Committee on Medical Defense
11. Committee on Medical Economics

SEC. 2. *Required Reports.* Each of these Committees shall at the annual session report in writing to the House of Delegates concerning its activities during the past year.

SEC. 3. *Vacancies.* If a committeeman who had been elected by the House of Delegates dies, resigns, is removed or fails to

serve, the person or agency vested with the power to nominate with respect to that office shall appoint some member of the Association to serve until the next session of the House of Delegates, at which time the House, on the nomination of the appropriate person or agency, shall elect some member of the Association to serve for the unexpired portion of the term. If a vacancy, as noted above, occurs in the office of a committeeman appointed or elected by some person or agency other than the House of Delegates, the person or agency vested with power to appoint or elect with respect to that office shall appoint or elect a successor to serve the unexpired portion of the term.

SEC. 4. *Scientific Work.* The Committee on Scientific Work consists of the President, who serves as Chairman, the Chairman of the Executive Committee, and three members elected by the Board of Trustees. The elected members shall serve for terms so staggered that in 1941 and succeeding years the Board may elect one member each year to serve a three year term. The Board shall hold necessary elections to this Committee at its first meeting following the adjournment of the annual session. The Board in electing members to the Committee shall so arrange it that one member of the Committee is a member of the component society within whose territorial jurisdiction the next annual session of the Association will be held. The Committee shall have charge of preparing the program for the annual session and also of the scientific exhibits. The proposed program shall be submitted to the central office not less than one month before the date of the annual session. The Committee shall be the editing agent of the Association and shall arrange, if ordered by the House of Delegates, for the proper publication of the transactions of the Association in its official organ. It may delegate its powers as it sees fit.

SEC. 5. *Finance.* The Finance Committee shall perform such duties and exercise such rights as are provided in Article IX, Section 3, of the Constitution.

SEC. 6. *Public Laws.* The Committee on Public Laws consists of the President, the Chairman of the Committee on Public Relations, and three members elected by the Board of Trustees. The elected members shall serve for terms so staggered that in 1941 and succeeding years the Board may elect one member each year to serve a three year term. The Board shall hold necessary elections to this Committee at its first meeting following the adjournment of the annual session. The Board of Trustees shall designate the Chairman. The Committee shall keep informed with respect to laws, court decisions, court proceedings, administrative rules, and proposed and pending legislation relating to public health and such other matters as relate to the objects of the Association.

SEC. 7. *Public Relations.* The Committee on Public Relations consists of five members appointed by the Board of Trustees to serve during its pleasure. The Board of Trustees shall define the duties and direct the activities of the Committee.

SEC. 8. *Executive Committee.* The Executive Committee consists of three members selected by the Board of Trustees from among its members to serve during the pleasure of the Board. The Committee shall review and pass on all bills incurred by the Association and must approve same before the Secretary-Treasurer may pay them. Subject to the approval of the Finance Committee, it shall prepare and present a general fund budget for the ensuing year at the meeting of the Board of Trustees next following the adjournment of the annual session. The Committee shall supervise and direct the Executive Secretary and other employees in the execution of their duties.

SEC. 9. *Graduate Medical Education and Hospitals.* The Committee on Graduate Medical Education and Hospitals consists of three members appointed by the President, whose terms are so arranged and so staggered that two years after the adoption of these By-Laws and annually thereafter the President may appoint one member to serve a three year term. The Committee shall act in conjunction with the Board of Trustees to provide postgraduate clinics, courses and other instruction for the component societies and the members of the Association. The Committee shall cooperate with the Council on Medical Education and Hospitals of the American Medical Association. All questions pertaining to medical education, hospitals, clinics and dispensaries shall be referred to this Committee for consideration and action.

SEC. 10. *Publication.* The Committee on Publication consists of three members, nominated by the Board of Trustees and elected by the House of Delegates each year. The Committee shall represent the Association as trustees for Northwest Medical Publishing Company.

SEC. 11. *Public Health and Sanitation.* The Committee on Public Health and Sanitation consists of three members appointed by the President, whose terms are so arranged and staggered that two years after the adoption of these By-Laws and annually thereafter the President may appoint one member to serve a three year term. The Committee shall keep in touch with and investigate matters concerned with the public health of the state and shall carry on such activities in the field of public health and aid in the dissemination of public health information in relation thereto as the Board of Trustees may direct. In its discretion the Committee may appoint from among the membership of the Association such number of subcommittees so constituted as it deems proper to work under its direction and control in such fields of public health as it may determine.

SEC. 12. *Industrial Health.* The Committee on Industrial Health consists of five members appointed by the Board of Trustees to serve during its pleasure. The Committee shall inform itself concerning the actual conditions relating to the health control of and medical care rendered as a result of industrial accidents to employed individuals and shall study and recommend desirable criteria in the field. It shall establish relations with other agencies having a legitimate interest in the health of industrial workers. It shall represent the Association in dealing with the State Department of Labor and Industry and shall cooperate with the Council on Industrial Health of the American Medical Association.

SEC. 13. *Medical Defense.* The Committee on Medical Defense shall consist of one from each congressional district and the Secretary-Treasurer. The members shall be nominated by the Board of Trustees and elected by the House of Delegates to serve three year terms. Elections to this Committee shall be held in 1940 and every three years thereafter, provided that as often as may be necessary in the interim elections may be had to fill vacancies created by the contingencies mentioned in Section 3 of this Chapter.

Under such terms and conditions and with respect to such members of the Association as the Committee may prescribe or determine the Committee shall perform the functions discussed in this paragraph. It may investigate all reported claims against members of this Association for compensation for injuries alleged to have resulted from malpractice. It shall determine as nearly as may be practicable the circumstances leading up to the making of the claim itself and the grounds on which the claim is based. If the Committee believes a claim unjust, it shall cooperate, so far as it can lawfully do so, with the member against whom the claim has been made and with his counsel. If the Committee believes that a claim is a just claim, it shall cooperate with the member against whom the claim is made and with his counsel, so far as it can lawfully do so, in effecting an equitable settlement.

The Defense Fund existing at the time of the adoption of these By-Laws is a fund separate and apart from the general funds of the Association and is to be devoted, under the joint control and supervision of the Committee and the Board of Trustees under such regulations as they may prescribe, exclusively to the objects and activities of the Committee.

SEC. 14. *Medical Economics.* The Committee on Medical Economics consists of three members appointed by the Board of Trustees to serve for terms so staggered that in 1941 and in succeeding years the Board each year may appoint one member to serve a three year term. The Committee shall study and investigate, so far as it and the Board of Trustees may deem practicable or advisable, such phases of general economics as have a bearing on the practice of medicine.

CHAPTER IX — OFFICIAL PUBLICATION

The official publication of this Association is NORTHWEST MEDICINE, in which shall be published all official Association notices and transactions of the House of Delegates, the general sessions of the Association, and abstracts of the meetings of the Board of Trustees.

CHAPTER X — RULES OF ORDER

In the absence of any provision in the Constitution or these By-Laws to the contrary, all general meetings of the Association, of the House of Delegates, of the Board of Trustees, and of Committees shall be governed by the parliamentary rules and usages contained in the then current edition of Robert's "Rules of Order."

CHAPTER XI — SEAL

The Association shall have a common seal, which shall be the seal of the State of Washington with an upper marginal inscription of the words Washington State Medical Association.

CHAPTER XII — AMENDMENTS

These By-Laws may be amended by the House of Delegates at any meeting of any session thereof by the affirmative vote of at least two-thirds of the delegates present and voting, provided that any proposed amendment has been submitted in writing to the House of Delegates at least twenty-four hours before being voted on.

CHAPTER XIII — REPEAL OF PREVIOUS BY-LAWS, MOTIONS AND RULES

On the adoption of the Constitution and these By-Laws all previous (1) By-Laws and (2) motions of record and rules and regulations in conflict with the Constitution or with these By-Laws are hereby repealed, provided that all officers, delegates and elected committeemen now in office shall continue their incumbency until their successors are duly elected as provided in the Constitution and these By-Laws.

SECOND SESSION

August 28.

The meeting of the House of Delegates was called to order by the Speaker, Wilmot D. Read, at 3:30 o'clock p.m., Winthrop Hotel, Tacoma, Wednesday, August 28, 1940. Upon calling the roll, a quorum was found to be present.

RESOLUTIONS

John H. O'Shea, Chairman of the Resolutions Committee presented a complete report of the committee and its recommendations on all annual committee reports, resolutions and the new Constitution and By-laws. The report of the Resolutions Committee follows:

Woman's Auxiliary: The Committee recommends the adoption of the report and recommends that \$150 be appropriated for the Woman's Auxiliary work. Moved and carried.

Advisory Committee to the State Department of Health and Social Security Department: The Committee recommends adoption of the report. Moved and carried.

Postgraduate Medical Education: The Committee recommends adoption of the report. Moved and carried.

Group Hospitalization: The Committee recommends adoption of the report. Moved and carried.

Neoplastic Committee: The Committee recommends adoption of the report. Moved and carried.

Public Relations: The Committee recommends adoption of the report. Moved and carried.

Finance Committee: The Committee recommends adoption of the report. Moved and carried.

Secretary-Treasurer: The Committee recommends adoption of the report. Moved and carried.

Tuberculosis: The Committee recommends adoption of the report. Moved and carried.

Study of Medical Care: The Committee recommends adoption of the report. Moved and carried.

Industrial Insurance: The Committee recommends adoption of the report. Moved and carried.

Resettlement Committee: The Committee recommends adoption of the report. Moved and carried.

Maternal and Child Welfare: The Committee recommends the adoption of the report. Moved and carried.

Social Hygiene: The Committee recommends adoption of the report. Moved and carried.

Radio Committee: The Committee recommends adoption of the report and recommends further that an immediate appropriation of \$1,000 be granted from the Public Relations Committee budget to carry on this work during 1941

and that no more than a total of \$2,500 be granted for radio from the Public Relations budget total of \$5,000. The Committee further recommends that appreciation be extended to Dr. Nixon for the tremendous amount of personal effort he has devoted to Radio and his report. Moved and carried.

Maternal and Child Welfare: Resolutions submitted by H. H. Spinner.

Whereas: The Washington State Maternal and Child Welfare Committee considers advantageous a standard in characterizing the period of development of the new born; and

Whereas: There is no authoritative statement of what constitutes a premature infant in Washington; and

Whereas: The Committee of Eight conjointly with the Maternal and Child Welfare Committee recommends the following definition; therefore be it

Resolved: That a premature infant be defined as weighing less than 2500 grams and or (5½ pounds) at birth, or less than 37 weeks gestation, or less than 48 cm. (19 inches) in length at birth.

The Committee recommends that this Resolution be accepted. Moved and carried.

Trustees of Northwest Medicine: The Committee recommends the report be placed on file. Moved and carried.

Resolutions From Pacific Northwest Society of Pathologists: S. F. Herrmann, representing this society, presented a resolution based on the fact that the State Board of Health Laboratory accepts specimens for diagnosis of syphilis and other diseases from any physician of the state, this work being performed without payment of a fee, regardless of the patient's ability to pay for such services. The practice of clinical pathology being a part of private practice of medicine, this work should be performed by local pathologists unless indigent patients are unable to pay for such services. This practice on the part of the State Board of Health Laboratory discriminates against and injures the existence of private laboratories in different parts of the state.

The resolution was to the effect that the services of the laboratory of the State Board of Health of the State of Washington shall be limited to indigent patients or others who are unable to pay for laboratory service.

The Committee recommends that the resolution submitted by the Pacific Northwest Society of Pathologists be not adopted and accepts the amendment to this recommendation that component societies advise their membership to avoid the abuse of the privileges extended by the State Department of Health. Moved and carried.

Constitution and By-Laws Committee: The Committee recommends the adoption of the report and commends the By-Laws Committee for the splendid work accomplished. Moved and carried.

Chairman of the Resolutions Committee submitted the Committee's recommendations on the proposed Constitution and By-Laws, and moved that they be adopted section by section with a few minor changes.

Resolution submitted by Dr. Penney: The Committee recommends that a resolution proposing an amendment to Article III, Section 1, of the Constitution and submitted by W. B. Penney, be not accepted. Moved and carried.

Resolution submitted by Dr. Skinner: The Committee recommends that a resolution submitted by H. H. Skinner proposing that the three immediate past presidents shall become ex-officio members of the Board of Trustees be not adopted. Moved and carried.

Resolution on adoption of Constitution: Be it resolved by the House of Delegates of Washington State Medical Association, in session August 28, 1940, in the City of Tacoma, that the Constitution, as read by Articles and Sections and approved, is hereby adopted as the Constitution of Washington State Medical Association, and on this date becomes the Constitution under which said Association exists. The Resolutions Committee so recommends. Moved and carried.

The Chairman of the Resolutions Committee, following adoption of the Constitution, section by section, then moved for the adoption of the By-Laws, chapter by chapter with the recommendation of certain minor changes and additions as announced before the House of Delegates.

Resolution on adoption of By-Laws: Be it resolved by the House of Delegates of Washington State Medical Association, in session August 28, 1940, in the City of Tacoma, that the

By-Laws, as read by chapters, individual sections and sub-sections, are hereby adopted; and that the Washington State Medical Association, from this date on, is working under the provisions of said By-Laws. Moved and carried.

Recommendation House of Delegates by Board of Trustees: That a request be made (1) that each component society be notified to send to the Secretary's office a copy of its Constitution and By-Laws, and (2) the President appoint a committee of five to study such Constitution and By-laws and recommend adoption of component society Constitution and By-laws not in conflict with those of the state Association. Moved and carried.

It was moved by Dr. Sharples: That the Committees hereinafter named be continued and the appointees thereto made by the President of the Association: Industrial Insurance, Group Hospitalization, Maternal and Child Welfare, Neoplastic, Social Hygiene, State Planning Council, Study of Medical Care and Advisory Committee to the State Department of Health and Social Security Department. Carried.

Dr. Spickard: "Mr Speaker, I move that the House of Delegates extend thanks to Dr. Penney and the men of Tacoma for the very fine meeting we have had in Tacoma this year." The motion was put to a rising vote of applause.

ELECTION OF OFFICERS AND COMMITTEE MEMBERS

President-Elect: G. W. Cornett, Yakima.

Vice-President: Lyle A. Greenwood, Bellingham.

Assistant Secretary-Treasurer: A. J. Bowles, Seattle.

Speaker, House of Delegates, Wilmot D. Read, Tacoma.

Trustees, Eastern Division: J. E. Bittner, Jr. Yakima; G. H. Anderson, Spokane.

Trustees, Western Division: M. Shelby Jared, Seattle; J. F. Christensen, Kelso.

A. M. A. Delegate: Raymond L. Zech, Seattle.

A. M. A. Alternate Delegate: D. G. Corbett, Spokane.

Committee on Medical Defense: M. Shelby Jared, Seattle;

J. Reid Morrison, Bellingham; M. P. Graham, Aberdeen;

G. W. Cornett, Yakima; Carroll Smith, Spokane; Wilmot D. Read, Tacoma.

Member of Finance Committee: A. T. Wanamaker, Seattle.

Committee on Publication: H. G. Willard, Tacoma; Robert N. Hamblen, Spokane; James M. Bowers, Seattle.

State Committee on Defense (Governor's): C. W. Knudson, Seattle.

1941 MEETING PLACE

The House of Delegates accepted the invitation of King County Medical Society to hold the 1941 meeting of Washington State Medical Association in Seattle. The invitation was extended by M. Shelby Jared, President of King County Medical Society.

There being no further business, the House of Delegates adjourned at 6:15 o'clock, Wednesday, August 28, 1940.

V. W. SPICKARD,
Secretary

SOCIETY MEETINGS

COWLITZ COUNTY MEDICAL SOCIETY

Cowlitz County Medical Society met at Hotel Monticello, Longview, September 18. J. F. Christensen gave a report on the meeting of the State Medical Association in Tacoma. He was elected a trustee to the State Medical Association at the last meeting. Several business matters were discussed and new committees appointed for the coming year. The Woman's Auxiliary met the same evening at Hotel Monticello at a no-host dinner. Mrs. H. D. Fritz gave a talk on the auxiliary program at the State Medical meeting.

RESOLUTION

Longview, Wash.
Sept. 18, 1940

Whereas: the Supreme Being has called to his everlasting resting place our friend and co-worker, C. W. Lane, and

Whereas: Dr. Lane for many years, with numerous personal sacrifices, conscientiously and unselfishly practiced his profession in a community that, bowing to the will of an All-Wise and Inscrutable Province, now greatly mourns the loss of a loved medical adviser, benefactor, and friend. Therefore, be it

Resolved: that in the passing of this physician, our society, the State Association and the community at large have sustained a great loss. Be it further

Resolved: that a copy of the resolutions be spread upon the minutes, a copy sent to the bereaved family with our sincere condolence and sympathy, and a copy sent to the local paper and NORTHWEST MEDICINE.

C. J. SELLS
P. H. HENDERSON
J. F. BARTON
Committee

PIERCE COUNTY MEDICAL SOCIETY

The regular meeting of Pierce County Medical Society was held in Medical Arts Building, Tacoma, September 10, with H. J. Whitacre in the chair. Homer W. Humiston by application and William B. Dublin by transfer were elected to membership. Applications of H. H. Andrews, F. H. James, J. A. Benson and J. V. Schwind were read for the first time.

Lester Palmer of Seattle read a paper on "The Use of Insulin." He stated that the first case ever treated by insulin in the Northwest was a baby sent to him by Dr. Miles. He outlined the pathologic physiology of diabetes, essentials of diagnosis and treatment of cases classified as mild, moderately severe and severe.

Fay Nace read a paper on "The History of Obstetrics," in which he discussed ancient mysticisms, Biblical passages on obstetrics, cesarean section, delivery forceps, anesthesia and puerperal sepsis.

J. H. Verhalen asked about the status of osteopaths and chiropractors attending the obstetrics refresher course in the University of Washington Extension Course. He felt very definitely they should not be allowed to do so. Dr. Denzler stated that in the last Legislature a bill was proposed requiring premarital examinations by physicians. This year a bill would be introduced allowing osteopaths and physicians to make premarital examinations.

MEDICAL NOTES

SANITARIUM TO ELARGE. Oakhurst Sanitarium at Elma is to have a 40-bed addition. Bids will be called early in November by Grays Harbor county. The addition will bring this tuberculosis institution to a capacity of 120 beds.

NEW COUNTY HOSPITAL. In the recent election, voters of Cowlitz County approved a one mill levy in order to finance a \$70,000 County Hospital at Kelso.

SWEDISH HOSPITAL ENLARGES. A three-story addition to the orthopedic wing of Swedish Hospital in Seattle has been started. Cost of the work is estimated to run from \$60,000 to \$100,000.

CUMMINGS RESIGNS. Mr. C. J. Cummings, for twenty-two years superintendent of the Tacoma General Hospital and long active in hospital association work, has resigned from the position.

HENDERSON RESIGNS FROM LONGVIEW HOSPITAL. J. W. Henderson has resigned as manager of the Cowlitz General Hospital at Longview.

HEALTH OFFICER RESIGNS. Harold M. U'Ren, acting

County-City Health Officer at Walla Walla, has resigned. He will take postgraduate work at Northwestern University.

LOCATIONS. Carl W. Olander, formerly of Chicago, has joined the staff of the Taylor Richardson clinic at Ellensburg.

J. Gordon Adams, who formerly practiced at Friday Harbor, has moved to Enumclaw where he will be associated with F. G. Ulman.

Daniel R. Campbell has taken over the practice of J. J. Robinson of Oakesdale. He formerly practiced at Walla Walla.

John F. Beatty of Everett moved to Granite Falls for practice.

C. T. Noonan, formerly of Valley City, North Dakota, has taken over the practice of the late W. F. Edmonds of Seattle.

James A. Baker, formerly of New York City, has opened an office for practice in Hoquiam.

William Lightburne has moved from Spokane to Palouse for practice.

Morton W. Tompkins has returned from Chicago to practice obstetrics and gynecology in Walla Walla.

William E. Russell, who interned at Swedish Hospital in Seattle, has opened an office in the Crown Hill district of that city.

WEDDINGS: John R. Corkery, Jr., of Spokane and Miss Margery Bordelon of Cottonport, Louisiana, were married early in August.

Harry D. Pass and Miss Helen Thal, both of Seattle, were married August 20.

John Collins and Miss Mary Johnston of Seattle were married in August.

OBITUARIES

DR. CORNELIUS WILSON LANE of Castle Rock, Wash., died August 13, after a long illness. He was born February 25, 1884, at Bronson, Mich., and was 56 years of age. He received his medical education at Hahnemann Medical College and Hospital in Chicago, graduating in 1905. He practiced for many years at Omak and Okanogan after being employed by the Indian service. In 1924 he moved to Castle Rock.

DR. CHARLES E. KEELER of Yakima, Wash., died suddenly at his home August 10, aged 68. He was born in Erie, Pa. He received his early education in the public schools of that city and later went to New York to study music. He received his medical education at University of Michigan, graduating in 1904.

DR. EDWARD JOHN LAWRENCE of Spokane, Wash., died of a heart attack September 13, aged 56. He was born in Marshall, Minn., and received his medical education at the University of Minnesota Medical School in Minneapolis, graduating in 1908. He practiced in Spokane for 30 years. He served two terms on the Spokane School Board and during the World War served with the U. S. Army medical corps.

DR. ALFRED W. Z. THOMPSON of Yakima, Wash., died August 17 of uremia. He was 60 years of age. He was born in Pennsylvania and at an early age came to Tacoma, later moving to Yakima. He attended the University of Oregon at Portland and graduated in 1913.

OREGON STATE MEDICAL SOCIETY



SIXTY-SEVENTH ANNUAL MEETING, PORTLAND, 1941

THE EUGENE MEETING

Eugene lived up to its claim of being a friendly city, and certainly all who attended the 66th annual meeting of the Oregon State Medical Society have themselves to blame if they did not have an instructive as well as good time. The Program Committee is to be congratulated, and the Delegates should have a real thanks from the societies they represented. The contrasting subject matter and deliveries of the guest speakers added some zest to the acknowledged worth of the postgraduate instruction given.

All in all, 274 physicians attended. The impression was gained that the scientific program was better attended than before, while the scientific and technical exhibits were so placed that all doctors saw at least some of the work presented. The old reliable exhibitors were most welcome, but we must warmly welcome those who exhibited for the first time.

OFFICERS AND COUNCILORS

1940-1941

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President-Elect.....W. W. Baum, Salem.
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(reelected).
Second Vice-President.....Grover C. Bellinger, Salem.
Third Vice-President.....John D. Rankin, Coquille.
Secretary.....Morris L. Bridgeman, Portland (reelected).
Treasurer.....J. E. Buckley, Portland (reelected).
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First District—G. H. Strickland, Oregon City (held over);
Earl M. Anderson, Portland (reelected); Charles E.
Sears, Portland.

Second District—L. M. Spalding, Astoria (held over).

Third District—H. Garnjobst, Corvallis.

Fourth District—E. R. Durno, Medford (held over).

Fifth District—R. W. Hemingway, Bend (held over).

Sixth District—C. W. McCain, Hood River (held over).

Seventh District—C. J. Bartlett, Baker.

Councilor-at-Large—L. S. Kent, Eugene (held over).

Delegate to the American Medical Association—John H.
Fitzgibbon, Portland, (held over).

Alternate Delegate to the American Medical Association—
Robert L. Benson, Portland (held over).

ORGANIZATION ACTIVITIES

POLK, YAMHILL, MARION MEDICAL SOCIETY met September 10 in Salem. John H. Fitzgibbon of Portland, delegate of Oregon State Medical Society to American Medical Association, spoke briefly on the actions of the House of Delegates. York Herren of Portland gave a paper on "The Recognition and Treatment of Acute Craniocerebral Injuries." B. A. Myers gave a report on the meetings of the House of Delegates of Oregon State Medical Society, and John M. Ramage reported for the Maternal Welfare Committee.

COOS AND CURRY COUNTY MEDICAL SOCIETY held its first fall meeting and was addressed by R. H. Fields of Reedsport on "Cholera in China." Officers of this society are as follows:

John Simpkin, President; Gerald Stark, Vice-President; B. Barkwill, Secretary-Treasurer; L. Johnson, Historian; Donald M. Long, Delegate to State Medical Society; L. Johnson, Alternate Delegate. Board of Censors include: L. Johnson three years; M. Johnson two years; John Rankin one year.

YAMHILL COUNTY MEDICAL SOCIETY held its first fall meeting September 3, at the Tourists Cafe in McMinnville. Clinical cases were presented.

OBITUARY

Dr. Verne F. Hamilton of McMinnville died on September 13 at the age of 57 as a result of an automobile accident.

STATE BOARD OF HEALTH

Frederick D. Stricker, State Health Officer, attended the meeting of State and Territorial Health Officers in Washington, September 16-19. It was called by the Surgeon General of the U. S. Public Health Service to discuss Public Health Preparedness in this country.

Oregon Nurses Annual Convention

The Oregon State Nurses Association, Oregon State League of Nursing Education, and the Oregon State Organization for Public Health Nursing held a joint convention September 18-21 in Roseburg, at which more than 150 nurses and persons engaged in nursing education and administrative fields from every section in Oregon were gathered.

Sessions were well attended, and many outstanding guest speakers from the nursing and medical fields were present. Among these were Mrs. Elsbeth Vaughan, Assistant Director, National Red Cross Nursing Service; Miss Gladyce Badger, Director Nursing Service, Pacific Branch, American Red Cross; Mr. Ralf Cough, Administrator, University of Oregon Medical School, Hospitals and Clinics; Miss Mary E. G. Bliss, Assistant Director of A.M.A. headquarters; Victor P. Morris, Ph.D., Dean and Director, School of Business Administration, University of Oregon; Miss Anna Fillmore, Field Representative, American Journal of Nursing; Dr. Erwin C. Drescher, Acting Director, Division of Venereal Disease Control, State Board of Health.

At a regular meeting of Oregon State Sanitary Authority September 20, the Authority went on record as requiring certain cities and industries in the Tualatin River, Pudding River and South Sanitam River basins to install new sewage and waste treatment plants or to provide additional treatment in existing plants.

Preliminary arrangements were also made for conducting a pollution survey of the Columbia River jointly with the state of Washington through its State Pollution Commission.

Trichina antigen is now available to physicians in Oregon. Through the courtesy of the National Institute of Health, requests for communications concerning this antigen should

be addressed to the Director, State Hygienic Laboratory, 816 Oregon Bldg., Portland, Oregon.

A. Edward Bostrom, Assistant State Health Officer, left September 14 for New Haven, Connecticut, where he will spend several months at Yale University studying newer public health methods.

Dr. Floyd H. DeCamp, Director of Oral Health, Division of Maternal and Child Health, Oregon State Board of Health, will enter Harvard School of Public Health on September 23, 1940, for a year's training in Public Health Dentistry. He will resume his duties with the department upon completion of the course, on or about June 6, 1941. The Oral Health Program will continue under the supervision of Dr. Harold M. Erickson, Director, Division of Maternal and Child Health.

Miss Ethel Mealey, Consultant in Health Education, Division of Maternal and Child Health, Oregon State Board of Health, will attend the annual American Public Health Association meeting in Detroit October 6-11. She is to participate in group discussions with leaders in health education, with Dr. Jessie M. Bierman, Assistant Director, Maternal and Child Health Division, U. S. Children's Bureau, Washington, D. C., presiding.

MEDICAL NOTES

The new Blue Mountain General Hospital at Prairie City has been completed. The hospital was financed through a bond issue voted by the people of Prairie City at a cost of about \$30,000.

John H. Fitzgibbon, Portland, was elected vice-president of North Pacific Society of Internal Medicine at a recent meeting in Victoria.

County Health Officer appointments: John R. Seeley has been appointed Coos County Health Officer; and Alexander Bradfield has been appointed Health Physician for Tillamook County.

Ralph Matson, Portland, has been given an honorary membership in the National Organization of Tuberculosis Specialists of Mexico. The appointment is in recognition of his contributions to tuberculosis control in Mexico through writings and lectures.

Doctors acquire new locations: E. L. Hurd, recent graduate of the University of Oregon Medical School, has opened offices in Albany. George D. Massey, has entered partnership with his father, G. A. Massey, in Klamath Falls. R. I. Hall, has located in Sweet Home, where he intends to erect an office and home in the near future.

IDAHO STATE MEDICAL ASSOCIATION



FORTY-NINTH ANNUAL MEETING, SUN VALLEY, 1941

MEDICAL NOTES

NURSES MEET. Idaho State Nurses Association met in Boise Sept. 6-7. Guest speakers of the meeting included Ernestine Bong Amick of Coeur d'Alene, Miss Mary I. Campbell, assistant director of American Nursing Association, Dr. James Millar of the Board of Christian Education for the Presbyterian Church, and William P. Sheppard, medical advisor of the Metropolitan Life Insurance Company at San Francisco.

PUBLIC HEALTH MEETING. First annual meeting of the Idaho State Public Health Association was held at Twin Falls, Sept. 9-10. Guest speakers were Joseph Mountin, as-

stant Surgeon General of the U.S.P.H.S.; William P. Sheppard, president of the western branch of the American Public Health Association; Fred T. Foard, regional consultant of the U.S.P.H.S. and Reginald M. Atwater executive secretary of the American Public Health Association, as well as many local speakers.

HOSPITAL ADDITION. St. Joseph's Hospital at Lewiston is to be enlarged. The addition will cost approximately \$20,000.

LOCATION. A. F. Galloway has located at Council, where he will be associated with Drs. Thurston and Duncan.

WEDDING. Frank Harms of Aberdeen and Miss Lois Kleiwer of Newport, Wash., were married September 7.

BOOK REVIEWS

ATLAS OF CARDIOROENTGENOLOGY. By Hugo Roesler, M.D., F.A.C.P., Associate Professor of Roentgenology, Cardiologist in the Department of Medicine, Temple University School of Medicine and Hospital, Philadelphia, 124 pp., \$8.50. Charles C. Thomas, Springfield, Ill.

This atlas consists of a series of roentgenograms of the chests of selected cases. The oblique views are often included. Sections of the hardened heart from postmortem examinations show the relationship of various portions of the organ to the cardiac silhouette. The history and clinical findings, often including the electrocardiographic reports,

are given in a most concise form, yet with sufficient data for proper understanding of the case. In some instances postmortem chest roentgenograms are shown, after the heart has been injected with barium. One page is devoted to various positions that the patient must assume in order that the best heart shadows may result. One sentence is the introduction is well worth repeating: "It is definitely undesirable to take chest films with the patient in maximal inspiration, if one is primarily interested in the cardiovascular silhouette." The atlas is printed on heavy glossy paper with Du Pont binding and should be an excellent reference book for those interested in cardioroentgenology.

A. G. FRIEND

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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The facilities of the institution are available to physicians who wish to use them for the care of their private patients.

DISEASES OF THE DIGESTIVE SYSTEM. By Eugene Rosenthal, M.D., Lecturer in the Medical Faculty, Royal Peter Pazmany University, Budapest, Hungary. 384 pp. With 234 Illustrations, including 104 in Color and 16 Tables. \$8.50. The C. V. Mosby Co., St. Louis, 1940.

This book covers a large subject in condensed form. At the same time it is not a condensation, but contains straight to the point practical and ample discussions, at times quaintly European, of all gastrointestinal problems commonly met by all of us, as well as some not so common. Theoretical considerations and reference to the literature are only alluded to briefly here and there, albeit the reader is perfectly conscious that the author has not disregarded them in reaching his conclusions.

The material is drawn from a tremendous experience and wisdom gained from practical contact with sick people and, as the author puts it, "considering them as a whole from their individual, physical, constitutional and intellectual aspects." Many of the numerous illustrations are unique, diagrammatic representations of ideas or principles which the author has devised in teaching medical students. The section on gastric and duodenal ulcer and the chapter on diseases of the liver and biliary tract are especially good. The book is designed primarily for the general practitioner, but the gastroenterologist will enjoy it and will get many helpful suggestions from it.

C. G. GOSS.

SYNOPSIS OF OBSTETRICS. By Jennings C. Litzberg, M.D., F.A.C.S. Professor Emeritus of Obstetrics and Gynecology, University of Minnesota Medical School, Minneapolis. With 157 Illustrations Including 5 in Color. 376 pp., \$4.50. The C. V. Mosby Company, 1940.

This is an excellent synopsis of obstetrics by one of the eminent teachers of the country. The author has placed due emphasis on the really important obstetric considerations, and has minimized lesser problems. He has not stated any set views on those questionable subjects, which have no place in a synopsis. A text of this type is indeed a fine reference because of the brevity and excellent organization of the subject matter. This synopsis of obstetrics will adequately fill its place among the other synopses of the different branches of medicine.

R. P. SMITH.

CLINICAL PRACTICE IN INFECTIOUS DISEASES. By E. H. R. Harries, M.D. Lond., M.R.C.P., D.P.H., Medical Superintendent, North-Eastern Hospital (London County Council), etc., and M. Mitman, M.D. Lond., M.R.C.P., D.P.H., D.M.R.E., Medical Superintendent, River Hospitals, etc. 468 pp., \$6. The Williams & Wilkins Co., Baltimore, 1940.

Essentially as set forth in the authors' preface, this book is an elaboration of notes on clinical lectures delivered to students. The first part is given over to general considerations, among which are modes of infection, allergy, laboratory aids, etc. Consideration of individual diseases in the remainder of the book are mainly grouped into those dealing with diseases by inhalation and by ingestion. Prophylaxis has been stressed in consideration of each of these diseases. Streptococcic diseases are interestingly grouped together and discussed as a group as well as in terms of the individual diseases.

The reader may not agree with or accept every statement made, particularly those related to controversial matters. This observation is not a criticism of the book and should not deter those who are really interested in communicable diseases in an interesting and useful style. It should stimulate the more critical students of communicable diseases to search out other works on the same subject.

D. G. EVANS

DOCTORS IN SHIRT SLEEVES. Musings on Hobbies, Meals, Patients, Sport and Philosophy. Edited by Sir Henry Bashford. 294 pp., \$2.50. Veritas Press, New York, 1940.

This volume contains a series of twenty brief essays written by as many different English authors. They recount many interesting personal experiences on a variety of subjects, such as "Crabbed Age and Youth," "From the Back Streets," "Pity the Poor Physician," "In Praise of Dr. Rabalais," "The Biology of War," "Medicine and Philosophy." The style is attractive, and the subjects so varied that it provides fascinating perusal.

OPERATIVE SURGERY. By J. Shelton Horsley, M.D., LL.D., F.A.C.S., Attending Surgeon, St. Elizabeth's Hospital, Richmond, Va., and Isaac A. Bigger, M.D., Professor of Surgery, Medical College of Virginia, etc., With Contributions by C. C. Coleman, M.D., F.A.C.S., Professor of Neurological Surgery, Medical College of Virginia; John S. Horsley, Jr., M.D., Associate Professor of Surgery, Medical College of Virginia, etc.; Austin I. Dodson, M.D., F.A.C.S., Professor of Urology, Medical College of Virginia, etc., and Donald M. Faulkner, M.D., Associate Professor of Orthopedic Surgery, Medical College of Virginia, etc. Illustrated by Helen Lorraine. Fifth Edition. Volumes I and II. 1567 pp., \$18.00. The C. V. Mosby Co., St. Louis, 1940.

Since the fourth edition of this book was published three years ago, so great progress has been made in surgery that many new operations have been devised, well represented in this work. Among them are ligation of the patent ductus arteriosus, segmental pneumonectomy and extrapleural pneumothorax. Special attention is given to ligation of arteries and treatment of aneurisms. Many modifications of well known operative procedures are introduced and recognized, standard technics are detailed.

Vol. I treats of cancer, blood vessels, nerves, bones, tendons, amputations, plastic surgery, lungs, mammary glands. Vol. II deals with heart, esophagus, hernia, abdomen, urology, brain, spine, sympathetic system. There is a profusion of illustrations numbering 1391, many of which illuminate steps in operations. Few operative procedures are overlooked in these volumes. The surgeon will find detailed suggestions concerning operations occurring in his daily practice. Name of the listed authors appears with each chapter.

REPORT ON THE SEX QUESTION. By The Swedish Population Commission. Translated and Edited by Virginia Clay Hamilton, M.D. 182 pp., \$2.00. The Williams & Wilkins Company, Baltimore, 1940.

Sweden is often presented as the land of ideal social relations. "No poverty, no unemployment, no syphilis." This volume presents the subject of contraception as conducted in this country. The decline in birth rate has been marked, as in most other nations. Its relation to contraception is discussed, ethical principles involved in this question are presented and its evaluation from practical viewpoints. A chapter on the campaign against venereal disease explains the methods of its reduction. While methods employed in this country might not be applicable in the United States, yet they are worthy of consideration.

THE MARCH OF MEDICINE. Edited by the Committee on Lectures to the Laity of the New York Academy of Medicine. 168 pp., \$2.00. Columbia University Press, New York, 1940.

Often one is called upon for an address on the achievements which scientific medicine has produced. If one wishes a brief review of some of the outstanding attainments, useful suggestions are obtainable from this volume. Its six essays are filled with historical information on medical development well worthy of reading.

NORTHWEST MEDICINE

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This journal goes to press the first day of the month. Material for publication should be received by the 25th of the preceding month.



Reprints will be furnished by the printer according to the schedule of prices which accompanies the galley proofs submitted to the author. The order for reprints should accompany the returned galley proofs. The printer holds the type until the first of the following month.



Illustrations will be provided by the journal to the extent of moderate cost, beyond which the contributor may provide anything he desires. Arrangements can be made by correspondence.

EDITORIALS

OPERATION OF SELECTIVE SERVICE ACT

Details of operations of the Selective Service Act are becoming considerably clearer and points at which the medical profession comes in contact with the functioning of this Act are now quite well outlined. In order further to clarify relationships of the medical profession to its operation, a brief review of its provisions is presented.

Selective service involves registration, which was accomplished October 16; classification and selection, which is now under way; and delivery for induction. Each state will maintain its own organization under supervision of a state director. The work of registration and classification will be done by what is designated the local board. Each local board will have supervision over an area, the population of which is about 30,000. Induction will be conducted as far as possible at army camp locations, centers for the Northwest being Ford Lewis, Missoula, Spokane and Vancouver. In questionable cases a board of appeal will make final decision regarding classification and selection.

Boards of appeal will be established to comprise whole local board areas but will not cover more than 70,000 registrants of the first registration. Each state will have a medical advisory board which will assist local boards in determining physical qualifications of registrants. Finally, induction will be completed by an induction board which will sit at a designated induction point.

At nearly every point in this set-up, medical men will be required. State headquarters will have the services of one or more state medical officers assigned from the army, navy, national guard, naval reserves or organized reserve. Each local board will include one civilian physician who is to determine the physical basis for classification of registrants.

Each board of appeal will similarly include one civilian physician. The medical advisory board will consist of internists, eye, ear, nose and throat men, orthopedists, surgeons, psychiatrists, clinical path-

ologists, radiographers and dentists. The induction board will consist of three internists, two ophthalmologists, one general surgeon, one orthopedist, one otorhinolaryngologist, one neuropsychiatrist, one clinical pathologist and one dentist. Insofar as possible, civilian medical men assigned to duty on selective service will be chosen from those who by reason of age or physical disability are not qualified to enter active service with the armed forces. Compensation will be provided for those serving on induction boards but there will probably be no compensation for any members of the local board, board of appeal, medical advisory board or examining physicians asked to work with the local boards.

The immense task of organizing the medical profession to fill the various places for physicians in the selective service organization is being done by the Committee on Medical Preparedness of the American Medical Association. One of the representatives of this committee for the 9th Corps Area, of which the three Northwest states are a part, is John H. O'Shea of Spokane. Karl K. Martzloff of Portland is chairman of Oregon State Preparedness Committee, Raymond L. Zech of Seattle being chairman of Washington Committee and J. N. Davis of Twin Falls chairman of Idaho Committee, each having been thus selected by the Council or Board of Trustees of its House of Delegates. Other members of each State Committee have been similarly appointed.

Various provisions have been made for exemption of certain individuals from requirements of the draft under the Selective Service Act. In order to clarify provisions affecting the medical profession, an amendment was introduced by Senator Murray of Montana on October 3, which is now pending in the Senate Committee on Military Affairs. A similar bill was presented to the House. Unless rejected or modified before this announcement is published, these exemptions will become established.

A BILL

TO AMEND THE SELECTIVE TRAINING AND SERVICE ACT OF 1940

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 4 of the Selective Training and Service Act of 1940 is hereby amended by adding at the end thereof the following new subsection:

"(c) Any man selected for training and service under this Act (1) who has been awarded a degree of doctor of medicine or doctor of dental surgery by a recognized medical or dental school, (2) who holds a valid license to practice medicine, surgery, or dentistry in any State, Territory, or possession of the United States, or the District of Columbia, and is engaged in such practice at the time of his selection, and (3) whose physical and mental fitness for such training

and service has been satisfactorily determined, shall, in lieu of induction into the land or naval forces of the United States for such training and service, be commissioned as an officer in the Medical Department Reserve, Officers' Reserve Corps, and ordered into the active military service of the United States as provided in the joint resolution approved August 27, 1940."

Sec. 2 Subsection (d) of section 5 of such Act is hereby amended by adding at the end thereof the following new sentences: "Medical and dental students at recognized medical and dental schools, and internes and resident physicians, surgeons, and dentists at recognized hospitals, shall be exempt from training and service (but not from registration) under this Act. Notwithstanding any other provision of law, any such medical or dental student, interne, or resident physician, surgeon, or dentist who is a member of a reserve component of the land or naval forces of the United States shall not be ordered or called to active duty or into active service in any of such forces without his consent, except in time of war."

PREMEDICAL EDUCATION

The prefix, of Latin derivation, which denotes before and which is commonly spelled p-r-e, sometimes has amusing connotation. An instance of this was frequently brought to the attention of his classes by a former professor of pathology in a mid-western medical school, whenever the term precancerous lesion was uttered in his presence. With a snort of derision he was wont to say "precancerous, huh? Well, how far pre?" Something of that attitude is now frequently expressed by faculty members of medical schools who are sincerely interested in education of medical men when confronted with the term "premedical education." To them the term is a complete misnomer. It was not coined by them, it has not their sanction, and the courses usually prescribed under it do not usually find favor in their eyes. Premedical courses are usually set up by educators who have no knowledge of what constitutes modern medical education and even less understanding of the philosophy which underlies the science and art of medicine.

Proper education of a medical man is a problem which has not yet been solved. This fact is undoubtedly a reflection of the general state of society which for the last fifty or more years has been going through some rather rapid phases of evolution, not to say periods of somewhat violent revolution. It is needless to expect that medical education will remain static until or unless civilization itself becomes less hectic than it has been in recent years. It will change as conditions change and it will be modified from time to time as experience shows the way. The pendulum will swing, but for many years will not come to rest.

During the opening decades of the present century there was an exaltation of everything scientific. Courses of medicine grew from two years to three, to four. Chemistry and more chemistry, bac-

teriology, immunology, physiology, pathology, pharmacology, histology, embryology and more were added to the courses until they became all science and no art; until medical graduates forgot the sick man in their study of his disease. With growth and development of science in the medical course and the increase in years of study demanded, there developed more stringent requirements for entrance into medical school. A high school education no longer sufficed, some college work was required. One, two, three and now nearly always four years education must be obtained before a student might pass the narrow portals of the school of medicine.

Naturally, it was assumed that for a man of science, as the doctor is often considered, the preliminary education must be scientific. Advances in clinical work and expansion of knowledge in diagnosis and therapy began to crowd back into the early years of the medical curriculum, thus tending to put more scientific work into the preparatory course. Indeed, most schools now dictate minimal requirements for entrance which include a goodly amount of basic scientific work. But they do not wish their entering students to be narrowed by too much scientific education at the expense of the more broadening courses. Above all, they do not want premedical education so pointed toward medicine that it becomes a type of vocational training. They want students of broad general education who know something of art, literature, history, philosophy, sociology, mathematics and English as well as chemistry and physics.

Basis of these desires is recognition of the fact that the medical man should be one of the leaders in his community. He should be considered more than a skilled workman or a trained technician. He should be able to assume his place as a man of unusual attainments and should be looked up to as an authority in diverse fields because of his more than ordinary opportunities. Fundamentally, this means that he should once again be known as the practitioner of an art as well as a science; he should once more become not the laboratory man with a rubber apron but a priest in the temple of Aesculapius, gowned with the knowledge and skill and the humanity which befits his high station.

This is the ideal toward which medical educators are now working. They hope that students embarking on a career of medicine can be students, not examination passers. They hope that the doctor will be a much superior individual both in intelligence and in education.

There are a few drawbacks to this idealistic conception. The first of these is the matter of money.

To obtain such a splendid education as is desired would entail the outlay of considerable funds, amounts of money in excess of those available to students from average homes. The second difficulty is the matter of time. While it is true that a better medical student might be produced by extensive education prior to his entrance into medical school, there might be some question when it comes to development of a practicing physician. Assuming that the doctor should enter private practice at the age of twenty-eight and that he graduated from high school at the age of eighteen, how best might he spend the ten intervening years? Should he spend four years in classical education, four years in medical school and two in the hospital or should he receive two years preliminary education, four in medical school and then four years in hospital work? Which method, in the long run, would produce the better doctor?

These questions cannot be fully and satisfactorily answered. A survey of those in active practice to compare the status of those with much or little preliminary education would be extremely difficult. A multitude of factors would have to be considered. The tendency of the educator, however, to base his judgment upon performance in the medical school should not be given too much weight. Ability to write a good examination paper or to listen well at lectures does not always indicate marked skill in the practice of medicine.

The ideals set up are splendid. It would be a fine thing for the profession of medicine and for the country if they could be attained. In setting such high standards, however, there may be some danger of eliminating valuable men who, because of financial reasons, would not be able to hurdle these requirements. This country has been developed on the theory that opportunity is open to all. We must not lose sight of the fact that the poor boy is often as able as the wealthy. If idealistic standards are to be established, then some system of scholarships or other aid should be provided to allow the poor but brilliant student to attain them.

In the meantime, however, there should be a drastic revision of the courses which are now labeled premedic. Every liberal arts college which expects to prepare students for a course in medicine should seek advice from a medical school or better still from the Association of American Medical Colleges. Then a coordinated program may be worked out which can be developed further as experience and the intelligent guidance of medical educators may direct.

PRESIDENTS FOR THE COMING YEAR

Photographs of the presidents of our three state medical associations are herewith presented, with data relative to education and previous locations. Election as president of one of these organizations is evidence of a man's professional attainments and the high regard in which he is held by his fellow practitioners. The office of president entails continuous application and hard work. So many problems confront the medical profession these days that their solution must be determined by its elected medical body headed by the president.

It is desired to extend to these presidents the congratulations of their respective organizations for selection to this responsible office. The loyalty and unanimous support of members of each state organization will be expected and can rightly be anticipated. Under their leadership the medical profession of the Pacific Northwest may be expected to function harmoniously and promote the wellbeing and physical health of the citizens of this section during the coming year.

BRITISH IMPERTURBABILITY

Rarely has a nation been assailed with such merciless, death-dealing attacks as have been constantly made upon England during recent weeks. The stoical equanimity with which these endless assaults have been received must excite the admiration of foe and friend alike. With no intimation of yielding, this nation stands ready to endure unparalleled punishment with conviction of ultimate victory. We at a distance cannot conceive of the agony of spirit and the dreadful destruction to which those people are constantly subjected. Realization of conditions may be to some extent suggested by a communication from one who is an actual participant. Extracts are herewith given from a letter¹ published in *The Bulletin of the Vancouver Medical Association*, written to a friend in this country by Dr. R. Watson-Jones of Liverpool, England, serving with the Royal Air Force.

"Blood and sweat; toil and tears; that is our privilege for the moment. Never before have we been faced with a greater task; never before have we been more resolutely determined to accomplish it. One by one our friends and allies have been beaten down, some 'rotted within before they were smitten without,' each overwhelmed in turn.

"Week by week, one more language has disappeared from the air. The dialing boards of wireless sets enhance the illusion of isolation, for now there are but two transmissions—ours and theirs. Nevertheless we are not isolated. We may have our backs to the wall, but what a wall! The Atlantic and our good friends beyond the Atlantic—our friends who believe with us in truth, in freedom and in tolerance.

1. Watson-Jones, R.: A Doctor Looks at War. Bull. Vancouver Med. Assn., 17:25-27, 1940.



KARL H. MARTZLOFF
(Portland)

President, 1940-1941
Oregon State Medical Society

Dr. Martzloff was born at Portland, Oregon, October 30, 1890. He received the A.B. degree at University of Oregon in 1913. From Johns Hopkins University School of Medicine he received the M.D. degree in 1917. He served under a Johns Hopkins surgical appointment at Lakeside Hospital, Cleveland, 1917-1918. He served on the residence staff of Johns Hopkins Hospital 1918-1923, being on leave for military service in 1918. He located in Portland in 1924, continuing to date with practice limited to surgery. He is Fellow, American College of Surgeons, member of American Gynecological Society, North Pacific Surgical Association and other medical societies.

"We will win. Whatever the cost, whatever the hardship, whatever the pain, by hard fighting, hard living, hard working, we will win. Why am I sure of that? '*Possunt quia posse credunt.*' They can, because they think they can.

"Imperturbability may have been our weakness in the past, for it spells 'complacency,' but equally it is our strength now and in the future, for it also spells 'equanimity.' There is no panic—not a trace, not a sign—no fear, no emotion, no anxiety; just a cold disciplined determination.

"If this letter is too short, too long, or in any way below the usual standard of our club, blame the Nazis, for the drafting of it has now witnessed two air raids. At this moment as I write, although it is crisp, bright Sunday afternoon, apparently so peaceful and warm with the mid-summer sun, the antiaircraft guns are firing and the drone of bombers can be heard."

What a superb nation! Although the Anglo-Saxon may meet with temporary checks, he will not contemplate ultimate defeat nor surrender.



HOMER D. DUDLEY
(Seattle)

President, 1940-1941

Washington State Medical Association

Dr. Dudley was born at Agency, Iowa, September 8, 1877. He graduated from Northwestern University Medical School of Chicago with degree of M.D. in 1902, following which he served as intern at Provident Hospital, Chicago. He located for practice at Winona, Minn. In 1905 he was appointed assistant to the chief surgeon of the Cananea Consolidated Copper Company, Cananea, Sonora, Mexico, where he served until September, 1909, when he located for practice in Seattle, continuing to this date. During the World War he served in the Medical Corps of the United States Army. He is a member of American College of Surgeons, North Pacific Surgical Association and other surgical organizations.

PACIFIC STATES MEDICAL EXECUTIVES CONFERENCE

The fourth meeting of this organization will be held in Portland, December 8. Its purpose is to provide opportunity for discussion of matters of common interest involving medical associations of the Pacific Coast. Their cooperation and coordination of plans and their execution will do much to promote effective accomplishments of the medical profession. Already notification has been received that representatives will be present from Califor-



ABRAM M. NEWTON
(Pocatello)

President, 1940-1941

Idaho State Medical Association

Dr. Newton was born at Cuba, Illinois, November 15, 1881. He graduated from the State Normal School at Normal, Illinois, and attended the University of Illinois. He received his M.D. degree from Northwestern University Medical School in 1911. He served as intern at Wesley Memorial Hospital in Chicago. He located at Pocatello in 1912, where he has practiced to this date. He has specialized in general surgery during the past twelve years.

nia, Oregon, Idaho, Washington, Nevada and British Columbia.

The business meeting will be held at 12:30, immediately following luncheon. In addition to discussion of many matters of importance, officers will be elected for the ensuing year and place of meeting will be decided. The following program suggests the subjects which will be considered at this meeting:

1. Medical Indemnity Insurance.
2. Coverage by Insurance or other Prepayment Plans for Families of Low Wage Employee Groups.
3. National Physicians Committee for Extension of Medical Service.
4. Medical Military Preparedness.
5. Federal and State Legislation.
6. Medical Service Plans (with Bureau representatives present and participating in the discussion).

This will include representatives from California, Oregon and Washington who will present specific subjects recommended by their Bureau managers.

ORIGINAL ARTICLES

ILEOSTOMY PRELIMINARY TO RESECTION OF GASTROJEJUNOCOLIC FISTULA*

JOEL W. BAKER, M.D.

SEATTLE, WASH.

Ileostomy as a preliminary to resection of gastrojejunocolic fistula has been employed, so far as can be determined, in but two cases, one herein reported and one by Dr. Robert D. Forbes of this association. I have had some experience with ileostomy as a first stage in certain sleeve resections of the colon. This has convinced me that, where technical problems make it preferable, ileostomy, as a temporary defunctioning procedure, can be as satisfactory and as comfortable as colostomy. Whether or not you will approve its application in gastrojejunocolic fistula, I hope at least that this report will serve to create discussion of a subject which continues to offer an embarrassing problem in mortality.

The incidence of gastrojejunocolic fistula will depend upon the incidence of jejunal or gastrojejunal ulcers. From 10 to 15 per cent of these ulcers perforate the colon to form fistulas. The incidence of jejunal ulcer following gastroenterostomy has been quoted at from 1.7 to 24 per cent, and following gastric resection from 0.4 to 10 per cent (Lahey¹).

Symptoms, physical findings, diagnosis, technic for roentgenologic examination and pathologic picture are clear-cut and have been adequately described in the literature.^{2, 3, 4, 5, 6} These aspects of the subject are outside the scope of this paper. I wish to limit my remarks to the matter of treatment.

PROGNOSIS

Without surgical interference, the condition is uniformly fatal, although the patient may live several years before death from malnutrition, weight loss and intercurrent infection. If the patient submits to surgery, he has at present less than

70 per cent chance of survival. If he survives the usual operation of simple repair of the fistula and disconnection of the gastroenterostomy, he is back at the starting point before gastroenterostomy, and he is faced with the probable necessity of another operation for his duodenal ulcer at a later time.

Mortality statistics for a number of representative surgeons are totaled in table 1 and give an

<i>Author</i>	<i>Year of Report</i>	<i>Number of Cases</i>	<i>Surgical Deaths</i>	<i>% Mortality</i>
Loewy	1921	63	17	27
Verbrugge (Mayo Clinic)	1925	20	5	25
Finsterer	1938	13	5	38
Gosset	1906	28	12	43
Lahey	1935	8	5	63
Allen	1937	8	2	25
Rife (& Coller)	1938	10	2	20
Kelley	1939	8	2	25
Pfeiffer	1939	4	2	50
Mason Clinic	1939	5	1	20
Mayo Clinic	1928-'37	50	16	32
TOTALS		217	69	32.7

Table 1. Operative Mortality in Gastrojejunocolic Fistula (All Technics).

average motality of 32 per cent. These figures cover the work of a number of surgeons in various parts of this country and abroad for the calendar years from 1906 to 1939. The total average mortality of 32 per cent is strikingly close to the individual mortality of various authors and has not varied in the past thirty years. This high mortality is not attributable to attempts at simultaneous gastric resection, as in the great majority of instances simple restoration of the normal continuity was accomplished, with, in some cases, a second gastroenterostomy or pyloroplasty. It is thought that most of us do not see the condition sufficiently often to be impressed by the prevailing high mortality.

PREVENTION

With such a high mortality existing, it is obvious that the most promising treatment would be that directed at prevention. In experienced hands this is being accomplished by applying surgical treatment to fewer patients with duodenal ulcer. Whereas in past years surgery was recommended for a much greater percentage of such patients, it is now resorted to only in from 8 to 15 per cent of the cases. Since gastroduodenal fistula occurs for the most part after posterior gastroenterostomy, a stricter limitation in the use of that procedure should still further reduce the incidence.

TREATMENT

In considering how best to treat these patients, it is necessary to remember that four factors make the picture a grave one: (1) The patient suffers from a nutritional deficiency, avitaminosis, usually

*From Mason Clinic.

*Read before a Meeting of North Pacific Surgical Association, Victoria, B. C., Nov. 17-18, 1939.

1. Lahey, F. H. and Swinton, N. W.: Gastrojejunal Ulcer and Gastrojejunal Colic Fistula. Surg., Gynec. & Obst. 61:599-612, Nov., 1935.

2. Verbrugge, J.: Gastrojejunocolic Fistulas. Arch. Surg. 11:790-808, Nov., 1925.

3. Rife, C. S.: Gastrojejunocolic Fistula. Am. J. Surg. 40:73-88, April, 1938.

4. Graham, R. R. and Lewis, F. I.: Jejunal Ulcer. J. A. M. A. 104:386-390, Feb. 2, 1935.

5. Walters, W. and Clagett, O. T.: Gastrojejunal Ulcer. Study of 155 Cases. Am. J. Surg. 46:94-102, Oct., 1939.

6. Lahey, F. H.: Experiences with Postoperative Jejunal Ulcer and Gastrojejunocolic Fistula. Am. J. Digest. Dis. & Nutrition. 2:672-677, Jan., 1936.

anemia, often severe alkalosis and dehydration. (2) He has a severe constitutional tendency to form and reform ulcer. (3) Any operation for relief involves the physiologic hazard of peritoneal soiling from the colon. (4) Operation to relieve is technically difficult and extensive, and the tissues are inflamed. Few of us see the condition in a sufficient number of cases to have our surgical teams adequately familiar with the problem.

I feel that the prevailing high mortality will be reduced in the future by: (1) stage operations, as mentioned above. I prefer a transverse ileostomy as the first-stage defunctioning procedure, (2) measures aimed at better and longer preparation of the patient for operation.

Because of regurgitation of feces, the patient cannot and will not eat. What is eaten is hurried through the intestinal tract, or short-circuited, so that little is assimilated. Profuse diarrhea may lead to a profound alkalosis and dehydration. In all patients the vitamin reserve is depleted, and Collier⁷ describes some who have had actual signs of clinical scurvy. Such patients must receive saline and glucose infusions (balanced by plasma) in amounts to relieve dehydration, alkalosis and to compensate for starvation. They may require 3000 cc. or more of such solutions daily for a week before operation. Blood transfusions are important before surgery for anemia and hypoproteinemia, and immediately after resection to prevent shock. Cevitamic acid and vitamin B complex must be given parenterally before and immediately after surgery. The necessity of Vitamin C for healing of the wound and intestinal suture lines is best described by the work of Taffel and Harvey⁸ and of Lanman and Ingalls⁹. This preparation for resection can be carried out during the seven day interval between ileostomy and resection. After resection the early orojejunal administration of protein, carbohydrate, salt and vitamin, with the aid of an Abbott gastrojejunal tube placed through the new gastrointestinal anastomosis at time of operation, as described by Stengel and Ravdin¹⁰, should speed recovery. This should prove particularly valuable in the patients with fistula, all of whom suffer from hypoproteinemia and avitaminosis.

It would seem equally important that, if mortality is to be reduced, it is essential to defunction the involved colon by a preliminary operation. This accomplishes three purposes: (1) it reduces or avoids contamination from the colon at operation; (2) it obviates any pressure on the colonic suture line after operation; (3) last, but by no means least, it reduces the inflammatory tumor usually present at the site of the fistula and thereby yields less inflamed and edematous tissue with which to work.

What is the ideal preliminary procedure which accomplishes this? Lahey and Swinton, in 1935, advocated transecting the terminal ileum and anastomosing the proximal end to the descending colon, later resecting the entire right colon along with subtotal gastrectomy and resection of the involved jejunum. This would seem an unnecessarily formidable procedure for the average surgeon. Pfeiffer⁷ has recently reported two cases in which he did a preliminary colostomy on the ascending colon as the first stage. He then waited four months, during

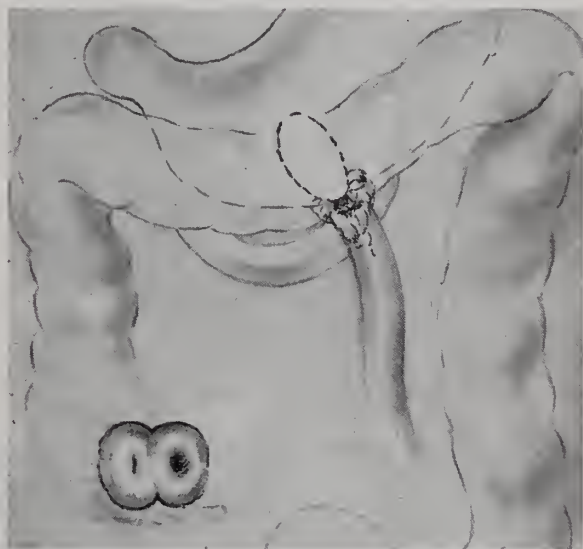


Fig. 1. Drawing of transverse ileostomy advocated as first-stage defunctioning operation before resection of gastrojejunocolic fistula.

which the patient showed a tremendous gain in weight, and thereafter reoperated, to find the originally large inflammatory mass greatly reduced and soft healed tissues with which to work. In each case he simply resected the fistula and restored the normal continuity. Both patients recovered, although one, he believes, will need a gastric resection for recurrence of the duodenal ulcer.

Unaware of Pfeiffer's procedure and before it was published, Dr. Forbes and I each operated upon a patient with gastrojejunocolic fistula and

7. Pfeiffer, D. B. and Kent, E. M.: Value of Preliminary Colostomy in Correction of Gastrojejunocolic Fistula. *Ann. Surg.* 110:659-668, Oct., 1939.

8. Taffel, M. and Harvey, S. C.: Effects of Absolute and Partial Vitamin C Deficiency on Healing of Wounds. *Proc. Soc. Exper. Biol. & Med.* 38:578-525, May, 1938.

9. Lanman, F. H. and Ingalls, T. H.: Vitamin C Deficiency and Wound Healing. *Am. Surg.* 105:616-625, April, 1937.

10. Stengel, A. and Ravdin, I. S.: Maintenance of Nutrition in Surgical Patients with Description of Orojejunal Method of Feeding. *Surgery.* 6:511-519, Oct., 1939.



Fig. 2. Koenig ileostomy belt applied to temporary ileostomy in patient who has had sleeve resection of sigmoid. A rubber bag is swedged onto a metal disk which fits ileostomy stump. This disk also has a rubber facing. With special latex skin cement the bag is made tightly adherent to the skin and supported in place by light elastic belt. The bag is changed once or twice in twenty-four hours. The extra bag is cleansed with cold water and hung up to dry with corset stay in place to hold edges apart so that water can drain out. Note the well-nourished condition of patient.

used a transverse ileostomy as the first-stage procedure. The physiologic principle is the same as that accomplished by Pfeiffer. We feel, however, that ileostomy (fig. 1) may be preferable to a colostomy on the ascending colon, for (1) it is technically easier to accomplish, (2) it is farther removed from the site of the second operation, and (3) it is more easily closed. For the past eighteen

months, I have used temporary ileostomy rather than colostomy preliminary to certain colon resections, and have been gratified by the reduction in technical difficulties. Previous to this, I had feared ileostomy because of the shock of physiologic readjustment from fluid loss, as well as erosion of the skin from enzymes and the inconvenience of caring for the patient. The first has not occurred; the patient is not weakened by ileostomy.

The Koenig ileostomy belt and special skin cement entirely prevent erosion of the skin and make ileostomy as simple as colostomy care (fig. 2). Strauss¹¹ first called our attention to this belt. He has used it in some two hundred or more cases. The belt so simplifies the care of the ileostomy that, although I had the young woman shown in figure 2 wear the belt four months, she regained her normal weight and strength and never once objected to it. Nor was she limited in her activities by the artificial anus. Moreover, the skin remained perfectly normal for closure.

If, therefore, it proves desirable to wait several months between ileostomy and resection of the fistula, as in the cases of Pfeiffer, this ileostomy belt affords convenient care and unlimited freedom in the interim.

CASE REPORT

F. T., white male, first consulted me at age 42, June 3, 1938, for symptoms of obstructing duodenal ulcer. He had had symptoms of ulcer periodically for twenty-six years, partially relieved by diet; he had had recurrent obstructive symptoms with vomiting for the past eight years, the last spell having lasted two weeks prior to admission.

Physical examination revealed a tall farmer of Scandinavian descent, 22 pounds under his normal weight. There was a lower right McBurney scar (ruptured appendix, age 32). Gastric analysis showed 80 degrees free and 125 degrees total acidity, and fluoroscopic examination

11. Straus, A. A.: Personal Interview.

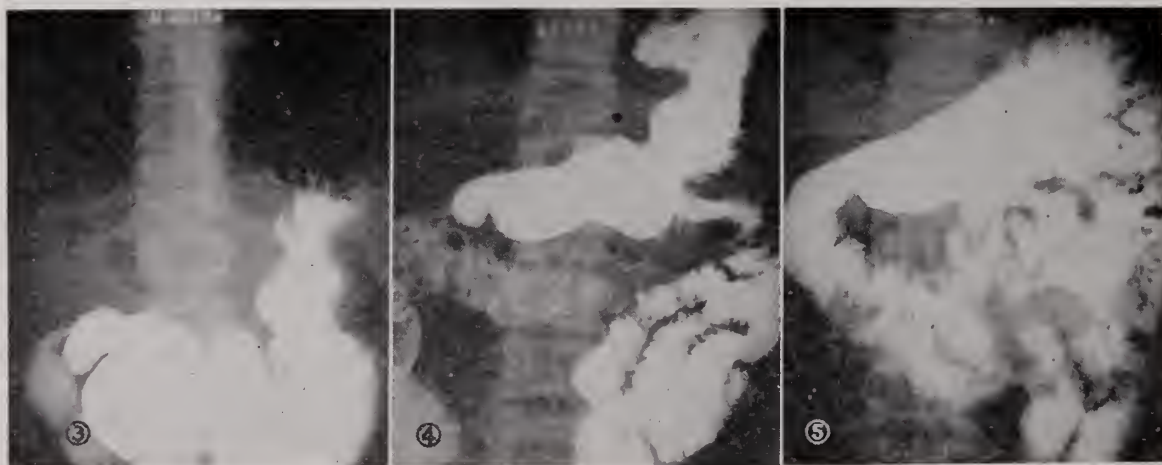


Fig. 3. Roentgenogram of stomach June 4, 1938, prior to gastroenterostomy. Note deformed duodenal cap and large obstructed stomach.

Fig. 4. Roentgenograms August 11, two months and October 8, four months after gastroenterostomy, showing functioning gastroenterostomy stoma. The stomach emptied un-

usually rapidly, but no jejunal ulcer crater could be seen. Note that the technic recommended by Graham of using a pressure bag to push stomach out of the way should be of assistance in showing jejunal ulcers.

Fig. 5. Roentgenogram September 26, showing gastro-jejunal fistula. The barium meal empties promptly and rapidly into jejunum and into transverse colon.

showed an obstructing duodenal ulcer, with 75 per cent six-hour retention of the barium (fig. 3).

I performed a posterior gastroenterostomy (without clamps) on June 8 for a penetrating posterior duodenal ulcer with palpable crater 1.5 cm. in diameter. The duodenum was contracted and obstructed by induration and scar, and the gastric wall was hypertrophied. The appendix had been removed, and there were numerous nonobstructing adhesions of the terminal ileum. Convalescence was uncomplicated, and the patient left the hospital on the fourteenth postoperative day.

At office visit July 6 he was symptom-free and had gained nine pounds in weight. August 10 he mentioned occasional slight tenderness in the epigastrium. He was co-operating with medical management. Gastric analysis and fluoroscopic examination revealed 25 degrees free and 38 degrees total acidity, with the gastroenterostomy emptying faster than average. No ulcer crater could be demonstrated (fig. 4). September 8, three months postoperatively, he complained of nervousness and an ache in the extreme lower abdomen, right and left side, several hours after eating, partially relieved by milk. He had regained fourteen pounds of his preoperative weight loss. Abdominal examination was negative, and no tenderness could be detected

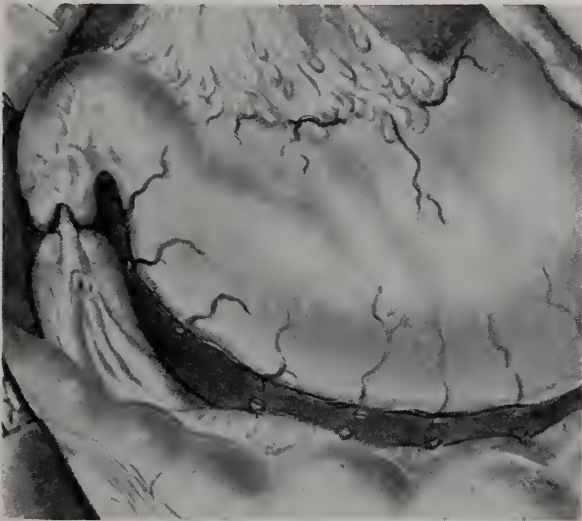


Fig. 6. Drawing of strictured second portion of duodenum found at time of gastric resection. After cuff of first portion of duodenum was freed and elevated, it was opened above this stricture. Aperture of this stricture was one centimeter in diameter and would not admit tip of little finger. A hemostat could be placed through this stricture down into second portion of jejunum. The butt of the duodenum was closed just above this stricture.

over the gastroenterostomy stoma. A month later he was much better. Gastric analysis was repeated, 22 degrees free and 34 degrees total acidity, but unfortunately the gastric content was not tested for blood, an early positive sign of jejunal ulcer, as recommended by Graham. Fluoroscopic examination showed the stomach emptying rapidly through the stoma, but no ulcer could be identified.

Although the patient was advised to return in one month, he remained away for one year, and finally came in on Sept. 25, 1939. At this time he complained of diarrhea of six to eight liquid bowel movements daily for the past three months. There was some distress to the right of the epigastrium at midnight, relieved by soda; occasional fullness at once after eating; and some heartburn. He had lost seven pounds in weight. He had vomited on several occasions in the past few weeks but had noticed no unusual odor to the vomitus. Fluoroscopic examination showed the barium meal passing rapidly into the jejunum and into the transverse colon (fig. 5). The abdomen was tender at this point.

In the laboratory, the urinalysis was normal, hemoglobin 10.3 grams, red blood count 4,400,000, white count 14,600, 60 per cent neutrophils. Blood chlorides were reduced to 445 mg. per 100 cc.; urea 20 mg. per 100 cc.; carbon dioxide combining power 50 per cent; total serum protein was reduced to 5.25, with an albumin globulin ratio of 1 to 3. The blood vitamin C was .564.

Preliminary First-Stage Ileostomy. On Sept. 28, under local infiltration anesthesia, the previous appendectomy scar was removed and the abdomen entered through a gridiron incision. The terminal ileum was involved by non-obstructing adhesions. It was freed, and a loop six inches above the cecum was exteriorized for transverse ileostomy. This loop was supported by a small glass rod passed through a hole in the mesentery. The peritoneum was closed snugly around this exteriorized loop. No stitches were taken in the bowel. Twenty-four hours later the gut was cut halfway across.

There was no appreciable reaction to this operation, and during the seven-day interim between this and the next



Fig. 7. Photograph of removed portion of stomach and jejunum. Note inflamed area around gastroenterostomy stoma.

procedure the patient was given intravenously 3000 cc. of 5 per cent glucose daily, 2000 cc. of this in normal saline. Also 200 mg. of cevitic acid was given intramuscularly each day. He was given a transfusion of 600 cc. of blood the day before his second-stage resection. Beginning three days after ileostomy, the defunctioned colon was irrigated daily through the distal ileostomy loop. The stomach was aspirated and lavaged each night, in preparation.

Second-Stage Resection. Oct. 6, under nitrous oxide-ether inhalation anesthesia, the abdomen was entered through the previous gastroenterostomy incision, and an adherent omentum was freed. The duodenum was found contracted and scarred by avascular adhesions (fig. 6), and the descending portion of the duodenum was strictured to such a degree that it would not admit the tip of the little finger. There was an indurated mass three inches in diameter in the region of the posterior gastroenterostomy stoma. The jejunum, stomach and colon were involved in the mass. The colon was freed from this mass. *It was perfectly clean and dry.* The fistulous orifice, 2 cm. in diameter, was shaved of its indurated edges and the opening closed with running chromatinized gut and silk sutures. The involved portion of jejunum was then resected and an end-to-end

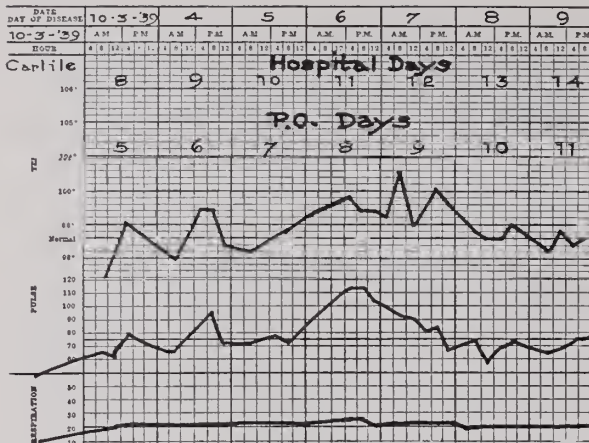


Fig. 8. Chart of temperature following resection of fistula. Defunction of involved colon reduces infection and trauma. Ninth postileostomy day as charted is the first postgastrostomy day.

anastomosis of the jejunum performed. The first portion of the duodenum and two-thirds of the stomach (fig. 7) was then resected, the stump of the duodenum being closed just above the strictured portion. An antecolic Polya anastomosis was then performed. Convalescence was uncomplicated and afebrile (fig. 8). Gastric analysis the fourteenth postoperative day was 0 free and 20 degree total acidity. Postoperative roentgenogram on this date is shown in figure 9.

Third-Stage Closure of Ileostomy was performed after roentgenogram showed the colon to be intact (fig. 10). This was accomplished on October 25 under local infiltration and pentothal sodium intravenous anesthesia. The skin around the ileostomy was in good condition. The stump was freed from the skin, invaginated, closed with running chromatinized gut and silk sutures, and dropped back into the peritoneal cavity. Two penrose drains were left. Convalescence from this was uncomplicated except by slight purulent drainage without any intestinal leakage (fig. 11). The patient was discharged from the hospital November 5. He has remained symptom-free to date and is gaining weight at the rate of four pounds per week.

COMMENT

At the time I did this gastroenterostomy, I favored gastric resection for duodenal ulcer and

felt that the application of gastroenterostomy should be strictly limited. However, this man was 42 years old, and despite relatively high gastric acids the presenting symptom was that of marked duodenal obstruction, as attested by the marked stricture of the duodenum found at the later operation. I felt that the result is another object lesson as to the danger of applying gastroenterostomy to active duodenal ulcer.

It will be noted that the patient's total hospitalization was five and a half weeks. The addition of ileostomy increased the hospital expense by only one week, the week following the closure of the

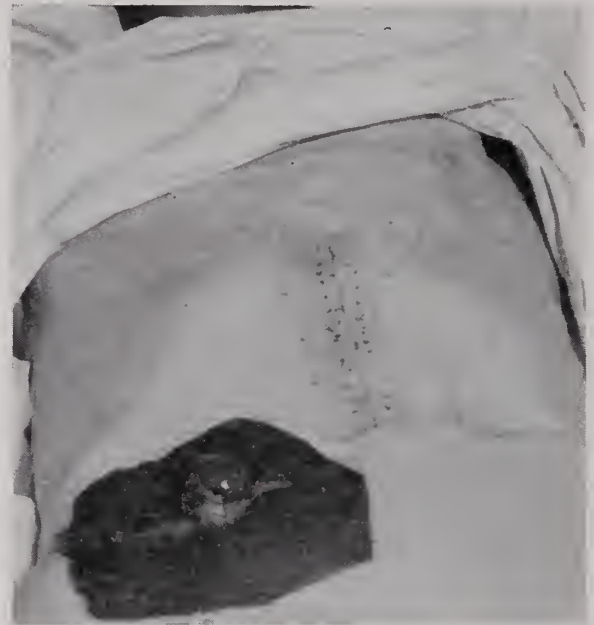


Fig. 11. Photograph of patient a few days before closure of ileostomy and after resection of fistula. Note skin around ileostomy is preserved in this case by Koenig skin cement and piece of rubber dam. Ileostomy belt has been removed for photograph.

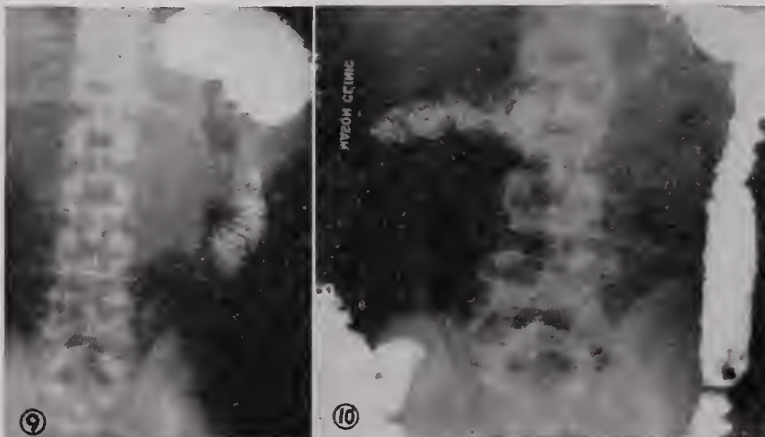


Fig. 9. Roentgenogram October 24, 1939, two weeks after resection of fistula and partial gastric resection. Remaining stomach and Polya anastomosis are seen to function satisfactorily. Gastric acids are 0 free, 20 degrees total.

Fig. 10. Roentgenogram of colon made by injecting distal loop of ileostomy prior to closure of ileostomy. Continuity of transverse colon is intact.

ileostomy, which otherwise the patient would not have needed. The week following the performance of ileostomy would have been necessary in any event for preparation of the patient, whether ileostomy had been performed or not, and therefore cannot be charged to the procedure.

In small fistulas the folds of jejunal mucosa act as a valve, allowing regurgitation from the colon but preventing currents in the reverse direction, i.e., from stomach to colon. This is true in most instances. Diarrhea is due, not to direct spilling of jejunal content into the transverse colon,

but to hypermotility from irritation by regurgitant feces in the upper intestinal tract. Thus, if all rectal discharge ceases after ileostomy and if the patient is extremely emaciated, the second-stage operation can be delayed several months. This, as in the case of Pfeiffer, may have two advantages: (1) the patient's state of malnutrition and hypoproteinemia are corrected, and (2) the inflammatory reaction about the fistula is replaced by normal noninfected tissue. As described, the Koenig ileostomy appliance makes this perfectly feasible, and the patient does not have to be hospitalized during this longer interval.

Dr. Forbes has permitted me to cite his case in support of the procedure of ileostomy. A week following an ileostomy in an extremely emaciated patient weighing 72 pounds, he was able to resect a fistula and perform a second gastroenterostomy, close the colon, and after another week close the ileostomy. The patient made an uncomplicated recovery.

Previous to this case, my experience had been limited to four others of gastrojejunocolic fistula. Of these I lost one. In 1931 Dr. Mason and I¹² reported a case and advocated the procedure of exteriorizing the transverse colon at the time of resecting the fistula in order to reduce the hazard of suture leakage and peritonitis. Three of my cases have been treated in this manner, with one death. The fourth patient had a small fistula without an inflammatory mass, and it was simply disconnected and closed. He recovered.

SUMMARY

1. A review of the literature reveals a prevailing mortality rate of 32 per cent in repair of gastrojejunocolic fistula. This high rate is explained in part by the severe state of malnutrition of the patient and in large part by the hazard of peritoneal infection from the involved colon, the inflamed condition of the tissues upon which operation is demanded, and the unusual technical difficulties involved in the operation.

2. It is believed that this mortality will be reduced by (1) a preliminary transverse ileostomy as a means of defunctioning the involved colon, and (2) a longer period of more careful preparation for surgery. Two cases are cited in which this procedure resulted in success.

3. Stricter limitation in applying surgery in general and posterior gastroenterostomy in particular in patients with duodenal ulcer should reduce the incidence of gastrojejunocolic fistula.

DIAGNOSTIC CONSIDERATIONS OF INTRACRANIAL NEOPLASMS*

A. L. SAHS, M.D.

IOWA CITY, IOWA

Modern treatment has made the outlook of intracranial neoplasms less hopeless than formerly. The therapeutic results have been sufficiently good that every patient with brain tumor should be carefully investigated as a possible candidate for surgical therapy. Early diagnosis and treatment are as imperative in brain tumors as in neoplasms elsewhere. The object of early diagnosis is to avoid the complications of long-standing intracranial hypertension. If the general practitioner makes the diagnosis of brain tumor or suspected brain tumor, and refers the individual for surgical therapy, he has fulfilled his responsibility toward the patient.

I will confine my remarks to the clinical aspects of intracranial neoplasms. Special examinations such as encephalography, ventriculography and electroencephalography are beyond the scope of this paper. For practical purposes, no sharp line of distinction needs to be drawn between those tumors which arise within the substance of the brain, and those which spring from the neighborhood structures. Any discussion of diagnostic problems should include all those tumors which arise in, or otherwise encroach upon, the intracranial cavity.

Tumors of the brain are more common than is generally supposed. They constitute approximately 2 per cent of all neoplasms,¹ and are found in approximately 7 per cent of all patients admitted to the Neurological Department of Iowa University Hospital.²

The first requisite in diagnosis is a complete history. Information should be obtained from relatives, as well as from the patient, so that a change of personality or an epileptic seizure, for example, will not go unrecorded. The second requirement is a systematic neurologic examination. Attention should be paid to the mental state, condition of the pupils, ocular rotations, fundi, action of the other cranial nerves, reflexes, sensory examination, tests for coordination, station and gait. The matter of examination of the spinal fluid as a routine measure is a disputed point. I have found, in a large series of patients, that the advantages derived from a

*From Department of Neurology, College of Medicine, State University of Iowa, Iowa City.

*Read before the Forty-eighth Annual Meeting of Idaho State Medical Association, Sun Valley, Ida., Sept. 11-14, 1940.

1. Bailey, P.: Intracranial Tumors. Charles C. Thomas, Springfield, 1933.

2. Sahs, A. L.: Diagnosis and Clinical Aspects of Brain Tumors. J. Iowa M. Soc., 30:18-21, Jan., 1940.

12. Mason, J. T. and Baker, J. W.: Gastrocolic Fistula. S. Clin. North America, 11:1097-1099, Oct., 1931.

study of the spinal fluid outweigh possible disadvantages and dangers.

"Diagnosis of tumor of the brain is at the same time the simplest and the most difficult in the whole domain of neurology."³ A few patients, unfortunately, must remain brain tumor "suspects" for an extended period of time, because an initial symptom, such as an epileptic seizure, may precede the other manifestations by months or even by years. It is important to remember, also, that we must learn to depend less and less on the time-honored triad of headache, vomiting and choked discs. These three symptoms, when present, are extremely valuable in diagnosis of neoplasm, but their absence does not exclude the condition. Grinker⁴ has summed up this situation as follows: "Gradually we come, therefore, to utilize these signs when present, to ignore them largely when absent and to realize that the only true symptom of an intracranial tumor is the gradual, progressive loss of neurological function. Tumors must always be suspected when evidence of a progressive focal lesion is elicited. To be sure, tumors occur which do not furnish us with this real diagnostic criterion and these, in turn, contribute the greatest diagnostic problems."

An expanding lesion of the intracranial cavity produces two principal effects, namely, local and general. The local manifestations result from disturbance in physiology of the involved area, and become evident through signs of irritation and/or paralysis. For example, tumors of the cerebellum produce nystagmus, asynergia, disturbances of alternate motion rate, as well as disorders of station and gait. Tumors of the pons interfere with the function of the nerves which arise in this area, particularly the sixth and fifth cranial nerves, as well as the ascending and descending pathways. A neoplasm of the precentral region leads to Jacksonian seizures and paralysis of the opposite side of the body. If the tumor is situated further posteriorly, the seizure may involve the sensory realm, and lead, ultimately, to a type of disturbance known as astereognosis.

Tumors of the frontal lobe anterior to the central convolution characteristically produce mental symptoms, such as changes in personality, loss of interest, failure of memory and facetiousness. Lesions in the dominant temporal lobe produce aphasic speech disturbances. A medially situated temporal lobe neoplasm results in unpleasant hallu-

cinations of smell and taste. Tumors of the third ventricle may result in diabetes insipidus and alterations in sleep rhythm. These are only a few examples of the local disturbances produced by intracranial neoplasms.

The general manifestations are produced by interference with the flow of cerebrospinal fluid and blood within the cranial cavity. These symptoms are headache, vomiting, failing vision and disturbances of consciousness. Headaches occur with most neoplasms of the brain, are often worse in the morning, and are usually not relieved by analgesics. Occasionally headache will be present at the site of the lesion, but more frequently it will be of a diffuse character. In many instances vomiting gives relief. The disturbance of consciousness may range from simple clouding, to stupor or coma. Often the state of consciousness will vary from day to day, or from hour to hour. Ultimately both local and general effects will usually be in operation.

A review of patients with intracranial neoplasms admitted to University Hospital² showed the outstanding symptom to be headache. Next in order came vomiting, failing vision, "seizures," weakness and/or numbness of one or more extremities, incontinence of urine, speech disturbances, generalized weakness, prominence of one eye, drowsiness, "nervousness," ringing in ears and weight loss. With this variety of symptoms, it is easy to understand that diagnostic difficulties are often encountered. The prominent clinical signs were choked discs, psychic changes, aphasias, paresis or paralysis of the facial muscles or extremities, changes in visual fields, reduction of vision, ataxia of station and gait, paresis or paralysis of the eye muscles, nystagmus, stiff neck, observed generalized or focal seizures, primary or secondary optic atrophy, prominence of one eye and pupillary inequalities.

Further analysis of this same group of patients showed that choked discs were present in 50 per cent, optic atrophy in 4 per cent, while no changes of significance were observed in the ocular fundi of 46 per cent. The spinal fluid findings were of interest, likewise. When 200 mm., in the horizontal position, was used as the top limit of normal, 55 per cent of the patients had increased pressure, while in 45 per cent the pressure was within normal limits. A spinal fluid cell count above 10 per cu. mm. was present in 21 per cent of the patients, and a spinal fluid protein content above 100 mg. per cent was observed in 25 per cent. Merritt and

3. Wechsler, I. S.: *Textbook of Clinical Neurology*. W. B. Saunders Co., Philadelphia, 4th Ed., 1939.

4. Grinker, R. R.: *Neurology*. Charles C. Thomas, Springfield, 2nd Ed., 1937.

Fremont-Smith⁵ reported, in 182 patients with brain tumor, a pressure greater than 200 mm. in 70 per cent, a cell count of more than 10 per cu. mm. in 17 per cent, and a protein content over 100 mgm. per cent in 32 per cent of their individuals. The conclusions to be derived from these observations are as follows: pleocytosis and increased spinal fluid protein are present with sufficient regularity in intracranial neoplasms to make one cautious about arriving at a snap diagnosis of inflammatory lesion in the face of such findings; and the absence of choked discs and intracranial hypertension, as measured through the spinal puncture needle, does not rule out neoplasm.

Sufficient emphasis has not been placed on the fact that intracranial tumors occur at all ages. Their presence in children, in particular, is likely to be overlooked. The majority of brain tumors in children occur in the posterior fossa, or in and around the third ventricle. It is important to remember that tumors in children usually give rise early to symptoms and signs of intracranial hypertension. Vomiting, headache, enlargement of the head as a result of suture separation, failing vision, stiffness of the neck and disturbances of locomotion are found with great regularity.

The pathologic types most frequently encountered are the astrocytomas of the cerebellum, medulloblastomas of the posterior midline of the cerebellum, gliomas of the pons, and a variety of tumors in the neighborhood of the third ventricle. All of these tumors, with the exception of the astrocytomas, present a discouraging outlook. It is the group of astrocytomas, constituting approximately 20-25 per cent of the tumors in children, that offers the most hopeful prognosis. "They are benign, can be removed with a low surgical mortality rate and with the almost complete certainty that if removed they will not recur. The chief problem at this time in regard to these tumors lies with the parents and family doctor. It is important that, if these children's lives and vision are to be saved, the cases be recognized and submitted to competent surgical treatment early."⁶

Brain tumors in the aged probably occur with greater frequency than is generally recognized, because neoplasms in elderly individuals are easily mistaken for vascular disease of the brain. The prognosis in these patients is usually not good. The majority of brain tumors, however, occur in

middle life, with the peak between forty and forty-five years. A large proportion of these tumors will be situated above the tentorium, in contrast to the predominantly intratentorial location of tumors in children. The gliomas, meningiomas, and pituitary adenomas head the list of intracranial neoplasms in adults. The physician should be on the lookout for metastatic tumors, particularly carcinoma of bronchus and breast, melanosarcoma and hypernephroma.

The differential diagnosis of intracranial neoplasms includes a large number of disorders. Epilepsy as an isolated symptom frequently offers important diagnostic considerations. Epileptic seizures may precede other manifestations of cerebral neoplasm by months or even years. Walker,⁷ in a review of epilepsy in adults, concluded that the symptomatology in approximately 15 per cent of all cases of tumor was ushered in by an epileptic seizure. Bailey states: "The condition of idiopathic epilepsy develops in over 50 per cent of the cases before the age of fifteen, in over 85 per cent before the age of thirty, and in over 90 per cent before the age of forty. This means, of course, that whenever a previously normal individual develops epileptic attacks in middle life . . . its nature must be carefully sought." Thus the physician should not lose sight of the patient who develops epilepsy in adulthood. Careful examination should be made for the possibility of brain tumor, and if none is found, reexaminations should be conducted at intervals.

The usual example of neurosyphilis should not offer great difficulty, if serologic tests are made on the blood and spinal fluid. Gummatous lesions of the brain are encountered infrequently, but may exist with completely negative serologic tests. Usually they are resistant to routine antisyphilitic treatment, and often must be treated surgically, especially if they are presenting signs of increased intracranial pressure.

Brain abscess produces, in general, the same manifestations as tumor. The presence of a source of infection elsewhere in the body, particularly in the middle ears, sinuses or lungs, should give the physician a clue as to the nature of the process with which he is dealing. There is generally some fever, and pleocytosis will be present more consistently than in neoplasms of the brain.

Vascular disorders of the brain offer many difficulties, particularly in individuals past middle life.

5. Merritt, H. H. and Fremont-Smith, F.: *Cerebrospinal Fluid*. W. B. Saunders Co., Philadelphia, 1937.

6. Bucy, P. C.: Brain Tumors in Children. *J. Iowa M. Soc.*, 29:47-53, Feb., 1939.

7. Walker, A. E.: Convulsive Seizures in Adult Life. *Arch. Int. Med.*, 58:250-268, Aug., 1936.

Tumor may resemble arteriosclerosis in that it may make its appearance in apoplectiform manner. The findings of a progressive lesion, of intracranial hypertension and papilledema favor the diagnosis of intracranial neoplasm. In connection with vascular disease of the brain, two other conditions should be mentioned. The first is chronic subdural hematoma which produces the signs and symptoms of an expanding intracranial mass. Often there is a history of a mild head trauma and chronic alcoholism. The second condition is intracranial aneurysm. A lesion of this type does not ordinarily produce intracranial hypertension, but does exert pressure locally, with production of palsies of cranial nerves, especially the oculomotor. Diagnosis is further substantiated by the presence of blood in the spinal fluid, if rupture or seepage of blood has occurred.

Various types of encephalitis and meningitis occasionally cause difficulty. The same applies to multiple sclerosis and some of the traumatic states.

Psychoneurotic individuals often complain of headache, dizziness, weakness, vomiting and visual disturbances. The history of emotional factors responsible for the condition, evaluation of the individual's personality, and consistently normal physical findings should suffice to make the correct diagnosis. It should be kept in mind, however, that there is nothing to prevent the psychoneurotic individual from developing organic disease on top of his neurosis.

SUMMARY AND CONCLUSIONS

Responsibility for recognition of intracranial neoplasms lies with the general practitioner. Diagnosis should be made early enough that vision is retained and the patient is still in condition for possible surgical therapy. Long-standing intracranial hypertension will often nullify what otherwise would be a good surgical result. The physician should remember that brain tumors occur at all ages, and neoplasms in children and in the aged are particularly likely to be overlooked. From the clinical standpoint a thorough history and a careful neurologic examination are essential for diagnosis. Differential considerations include idiopathic epilepsy, the neuroses, and a large group of inflammatory, vascular, traumatic and degenerative diseases of the brain.

REPRINTS FOR U. S. ARMY

Communication from Col. Harold W. Jones, Medical Corps, U. S. Army, Librarian of Army Medical Library at Washington, D. C., states that reprints of medical papers will be welcome at this library. They are placed in a special collection catalogued under name of author. This will be of value both to authors and to patrons of the library.

DIAGNOSIS OF BRAIN TUMOR*

PAUL G. FLOTHOW, M.D.

SEATTLE, WASH.

Practically all that has been published on diagnosis of brain tumors has been written for neurologists, and in such a scientific vein as to be somewhat overwhelming. Furthermore, text-books on neurology are so written that in the great majority of instances a general practitioner, attempting to obtain information about a specific case, is forced to wade through an abundance of material which often serves more to cloud the issue than to clarify it. For these reasons I am attempting to present some of the salient points in diagnosis and localization of brain tumors in as simple a manner as possible, endeavoring to avoid those ultrascientific aspects which at times may be confusing.

With the tremendous advances made in neurosurgical technic, and with our ability successfully to remove lesions that only a few years ago were considered inoperable, earlier diagnosis of brain tumor has become of vital importance. This is particularly true since the operability of a tumor frequently depends upon its size, which is determined by its age.

While it is true that diagnosis of brain tumor in the presence of the triad of headache, vomiting and choked disc is almost invariably correct, it is also true that, when these symptoms are present, the chances of a successful surgical outcome are rather poor. After all, these signs are not diagnostic of brain tumor per se, but actually are merely signs of increased intracranial pressure which has advanced to the point of impending death. Therefore, it becomes necessary that the diagnosis be made long before all of these signs appear, if we are to have a reasonable chance of a successful outcome.

Advances in the art of neurosurgery are gradually producing the realization that all brain tumors do not necessarily lead to intense suffering, disability, blindness and death. This encourages us to strive for earlier and more accurate diagnosis of these lesions.

GENERAL SIGNS OF BRAIN TUMOR

The signs and symptoms of brain tumor fall into two groups: general and focal. General symptoms are largely those of increased intracranial pressure, which follow:

1. *Headaches.* These are rather typical in nature. They may occur in the morning on arising and then are apt to disappear only to recur at intervals

*Read before meeting of Thurston County Medical Society, Olympia, Wash., May 29, 1938.

during the day. They are described as a bursting type of pain which is aggravated by bending over or by straining. These headaches are usually frontal. The location, however, is not diagnostic except in the case of cerebellar tumors when it is apt to be suboccipital. A recurring headache of increasing intensity, appearing over long periods of time, for which no cause can be found, should lead to the suspicion of brain tumor.

2. *Vomiting*. This may or may not be projectile; generally it is not. Projectile vomiting occurs most frequently in children with lesions of the posterior fossa. In other cases it is usually a late symptom.

3. *Choked disc*. This may be either an early or a late sign, depending on location of the tumor. Tumors in certain areas of the brain may grow to tremendous size before producing choked disc, especially those of the temporal lobe. On the other hand, small tumors in such a location as to interfere with the venous drainage or cerebrospinal pathways may produce choked disc early.

4. *Mental Dullness or Stupor*. This is most frequently a late sign, due to increased intracranial pressure except in frontal lobe lesions where it occurs early.

5. *Generalized convulsions*. These constitute a very important symptom, when occurring in adults past the age when idiopathic convulsions usually start. Any adult developing convulsive seizures should immediately become a brain tumor suspect.

To summarize the general signs, one may say that any one of these symptoms should lead to the suspicion of brain tumor. If two or more are present, the diagnosis is most likely, and if all are present it is quite certain.

FOCAL SIGNS OF BRAIN TUMOR

It is obvious that any attempt to cover thoroughly all of the various focal signs produced by brain tumors would far exceed the scope of a paper. Therefore, we shall only enumerate the more common signs which can be easily recognized, and which act as sign posts, directing us toward a certain area in the brain and toward an early focal diagnosis.

Since our knowledge is still quite limited as to the function of some parts of the brain, and since only certain rather small areas produce focal signs, it is possible to have lesions of considerable size in so-called silent areas that are not localizable clinically. However, there are areas of the brain that do give definite findings which we shall enumerate. It should be remembered that all of the following

signs and symptoms do not always occur in a given lesion.

FRONTAL LOBES

1. *Mental and psychic changes*. These are very marked in many cases. There is poor memory, dullness, unreasonable euphoria (Witzelsucht) and changes in character. These patients may become slovenly, absent minded and careless, and show a marked lack of interest in their surroundings.

2. *Aphasia*. This is quite common when the posteroinferior areas of the frontal lobes are involved.

3. *Apraxia and dysarthria* are common.

4. *Paralysis of face and arm* may be present in posterior frontal lesions, due to pressure on the precentral gyrus.

5. *Forced grasping*. This is a symptom caused by involvement of the premotor area. When an article is placed in the patient's hand, he is unable to let go of it. For example, in trying to throw an object he will go through the motion of throwing without the object leaving his hand.

6. *Anosmia* occurs in lesions of the lower surface of the frontal lobe.

7. *Involuntary sucking* occurs when an object is placed in the lips.

ROLANDIC MOTOR AREA

Lesions around the Rolandic fissure produce either largely motor symptoms if they are anterior, or sensory symptoms if they are posterior, or a combination of both, the predominance depending upon the location anteriorly or posteriorly.

Paralytic Symptoms. Lesions anterior to the Rolandic fissure. The symptoms depend upon the area involved. Since the central representation of the various parts of the body is inverted, lesions high in the motor area affect the lower extremity, and those low in the motor area affect the face and upper extremity. The paralysis is usually spastic. The arm frequently is more involved than the leg by virtue of the greater complexity of the innervation of the arm, and also by the fact that the leg has a contralateral representation in the cortex. Facial paralysis is frequently the earliest sign.

Early paralytic lesions, before there is an actual difference in the measurable strength of the extremity, may be indicated by several findings and tests:

1. Facial paralysis may be indicated by a slight lag in initiation of voluntary movements of the face without any involvement of emotional facial expressions, or vice versa.

2. Preparalytic lesions of the arm may be indicated by several findings. One test is to have the patient extend both arms with eyes closed and distract his attention by having him repeat words or phrases. The paralytic arm has a tendency to drop below the level of the normal arm. A similar test for preparalytic lesion of the leg is accomplished by throwing the leg upward from the extended to the flexed position. The involved side wavers more than the normal before the position becomes fixed. Also, in the prone position the involved foot is usually slightly everted. The position of the hand in walking is quite diagnostic. The paralytic side is flexed and held against the side and does not swing normally and freely as does the normal side.

3. Lengthening reaction may be present. In passive extension and flexion of the arm and leg, a definite resistance is found which suddenly gives away.

4. The Babinski and other pyramidal tract signs are frequently present.

5. Jacksonian convulsions are very diagnostic of focal lesions, and the type of seizure and its location are of great diagnostic aid. A localized paralysis which occurs temporarily after a Jacksonian attack points to the brain area involved.

POSTROLANDIC SENSORY PARIETAL AREA

Disturbance of sensation of cortical origin such as localization of sensory stimuli, sense of position and astereognosis (interpretation of sensory impression) may occur.

1. The threshold of sensation is generally raised but sensations are not lost. The affected side requires more of a stimulus to give a sensory impression than the normal side. Painful sensations may radiate quite widely from the area to which the stimulus is applied, and there may be inability to locate the area stimulated.

2. Sense of position is disturbed. The patient is unable to determine the position of his toes or fingers. In asking him to point at his big toe, for example, he does not know accurately where it is.

3. Astereognosis. This is the inability to correlate sensory impressions that are received. They are unable to determine the size, shape or weight of an object placed in the hands.

4. Sensory Jacksonian spells. These are equivalent to motor Jacksonian attacks except that there will be sensory spells such as radiating pains, sensations of heat, crawling, etc.

5. Homonymous low quadrant visual defects occur in lesions low in the parietal lobes.

6. Aphasia. This may occur in a low parietal lesion on the left side in a right handed individual.

TEMPORAL LOBE LESIONS

These lesions may become very large on the right side without producing any symptoms. Following are the most common findings:

1. Aphasia. This may occur when the lesion is on the left side. The patient may have a sensory anomia, which is an inability to name objects.

2. Contralateral homonymous hemianopsia may be present.

3. Visual hallucinations are not uncommon. These are more apt to be formed hallucinations such as objects, people, buildings, etc., in contrast to the type which occurs in the occipital lobe lesions.

4. Uncinate fits. Hallucinations of taste and smell, usually of a very disagreeable nature, may occur.

5. Peculiar dream states may occur.

6. Facial weakness results from pressure of the lesion upward, involving the lower motor areas.

7. The third nerve may be paralyzed on the same side in deep lesions.

OCCIPITAL LOBE LESIONS

These are very frequently difficult to diagnose, owing to the fact that they produce few symptoms of localizing value. The two characteristic findings are:

1. Homonymous hemianopsia of contralateral fields. This cannot be differentiated from the hemianopsia of temporal lobe lesions. Quadrantopsias are more apt to be temporal.

2. Visual hallucinations. These take the forms of scintillating scotomata, zigzagging flashes of light, stars, sparks, etc., rather than the formed hallucinations which occur in temporal lobe lesions.

CORPUS CALOSUM LESIONS

These are characterized by bilaterality of signs and symptoms, most prominent of which are:

1. Marked mental changes similar to those caused by frontal lobe lesions, but more apt to take the forms of violent mania.

2. Bilateral pyramidal tract signs such as increased reflexes, pathologic reflexes, clonus, etc.

3. Bilateral grasp reflex.

THALAMIC LESIONS

1. Profound sensory disturbances.

2. Severe shooting pains, the so-called thalamic type of pain.

3. Misinterpretation of stimuli. Nonpainful stimuli may produce painful sensations, or vice versa.
4. Hemiplegia.
5. Unilateral ataxia.

PINEAL LESIONS

1. Growth changes and sexual precocity.
2. Disturbance of conjugate movements of eyes.
3. Paralysis of upward gaze.
4. Third nerve paralyses.

THIRD VENTRICLE LESIONS

These lesions are very difficult to diagnose clinically as they are accompanied by a paucity of clinical findings until they reach the terminal stages, most of the symptoms being those of increased intracranial pressure. Usually the diagnosis of this lesion can be made only by ventriculography. There are, however, some findings which should lead one to suspect their presence.

1. Headaches on change of position. Sudden headache occurring when the patient lies down, for example, and which is relieved by standing should lead to a suspicion of a ball valve tumor of the third ventricle.

2. Sudden collapse with ensuing coma, when the patient's head is in a certain position, should give rise to the same suspicion.

3. Obesity and genital dystrophy may occur in these lesions.

4. Disturbances of sleep, especially pathologic sleep, frequently diagnosed as narcolepsy may occur in these tumors.

5. Disturbances in the temperature regulating mechanism may occur because of the effect on the temperature center in the floor of the third ventricle.

BRAIN STEM — MEDULLA AND PONS

Lesions in the brain stem are productive of a large variety of symptoms due to the concentration of cranial nerves and tracts. There are numerous syndromes indicating the exact location of these lesions, due to the effect on various nerves and tracts.

1. Any or all of the cranial nerves from four to twelve inclusive may be involved, and various combinations of these nerves.

2. Pyramidal tract symptoms are practically always present.

3. Cerebellar symptoms such as ataxia, dysmetria, etc., are usually present, so that the diagnosis of these lesions does not usually offer a great deal of difficulty except in the differentiation from cerebellar lesions.

CEREBELLAR LESIONS

The signs and symptoms may be divided into two groups: Those due to midline lesions, and those due to lesions of the lateral lobes.

Midline lesions, or those involving the vermis and the fourth ventricle, cause the major involvement in the lower extremities.

1. Nystagmus is practically always present.

2. Ataxia and hypotonia are marked.

3. Station and gait are markedly involved. These people walk with a broad base and the Romberg is practically always present.

4. Signs of increased intracranial pressure occur early due to blocking of the aqueduct of Sylvius.

Lateral Cerebellar Lobe Lesions. The symptoms in these lesions are on the same side as the lesion. Characteristic symptoms may be listed as follows:

1. There is marked muscular dystonia and hypotonia of the arm.

2. Lack of coordination of antagonistic muscle groups. A test to show this is throwing the arm at the face, for example. The hand will strike the face before the patient is able to stop the movement. Another test is to have the patient hold the arms flexed and resist extension and then suddenly release the pressure; the arm will fly back.

3. When the patient's arms are extended the involved side droops and wavers.

4. Dysmetria is marked. The patient will be unable to place the finger accurately on a certain portion of the anatomy.

5. There is pastpointing with the eyes open as well as closed.

6. Adiadokokinesis is present. This is inability to perform rapid movements such as rapidly rotating the hands in the extended position.

7. Ataxia, especially in the heel-knee test. The movements are very jerky and irregular. There is a marked tendency of the motion to be broken up into its various component parts in a jerky fashion. This is known as decomposition of movement.

8. Station and gait are markedly involved. The patient walks with a broad base and has a tendency to fall toward the side of the lesion. He will stagger and reel toward that side also. This staggering is as bad with the eyes open as with them closed, since it is not dependent upon any sensory impressions. This is brought out by having the patient walk tandem.

9. There is marked atonia, which is lack of quick control of the movements so that if the leg, for example, is thrown from the extended to the flexed

position, there is definite overextension and a marked unsteadiness of the leg.

10. Reflexes are usually diminished.

11. Nystagmus is usually present.

12. Cranial nerves are frequently involved, especially the sixth. The side of involvement of the sixth nerve is not a lateralizing sign. The fifth, seventh and eighth nerves may be involved by direct pressure.

13. Choked discs occur early in this lesion due to blocking of the aqueduct of Sylvius.

14. Suboccipital headaches and rigidity of the neck are commonly found.

CEREBELLOPONTINE ANGLE TUMOR

These lesions may be rather easily diagnosed. Depending upon their size, any or all of the symptoms enumerated for cerebellar lesions may occur. Signs which should lead one to suspect the presence of such a lesion are as follows:

1. Gradually increasing deafness in one ear.

2. Tinnitus, same side.

3. Corneal anesthesia which appears before the other sensory components of the fifth nerve become involved.

Given these symptoms plus various other cerebellar findings, acoustic nerve tumor becomes a very probable diagnosis.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis of brain tumor from other conditions ordinarily does not present a great deal of difficulty. The major difficulty is in the differential diagnosis of brain tumors as to their location. There are, however, certain conditions which may lead to confusion.

1. Vascular lesions of the brain may produce many of the signs and symptoms of brain tumors. Differentiation should be made by the history. Ordinarily, vascular lesions are apt to be much more violent in their onset. The absence of increased intracranial pressure as measured by spinal puncture is also a point of differentiation. The age of the patient helps as these lesions are more apt to occur in elderly individuals. As a last resort encephalography or centriculography should make the differentiation.

2. Encephalitis may produce choked discs, headaches and focal signs which may be very difficult to differentiate from brain tumor. Spinal pressure, serology and encephalography should make the diagnosis.

3. Syphilis at times causes a confusing picture,

but history and serology usually suffice to make the diagnosis.

4. Brain abscess may produce all of the signs and symptoms of brain tumor since it is a space-occupying lesion. The differentiation becomes a matter of great importance because the surgical approach is entirely different for the two conditions. The following differentiating points are of assistance:

a. History of sinus infection or other infectious process in the body such as pulmonary abscess or bronchiectasis.

b. The presence of roentgen evidence of sinus or mastoid disease.

c. Headaches are apt to be of greater intensity and occur typically at night.

d. Slow pulse and subnormal temperature.

In spite of the most accurate diagnostic studies and the utilization of all the various diagnostic aids, the differentiation at times is impossible and brain abscess may be encountered when a diagnosis of brain tumor has been made, and vice versa.

5. Idiopathic choked disc. Recently there have appeared in the literature several reports of acute choked disc of unknown origin, in which the diagnosis of an intracranial expanding lesion could not be substantiated, and, therefore, no surgical procedure had been performed. The patients may get well without any particular treatment. I have encountered several cases of this type, in which a diagnosis of brain tumor was almost certain because of the presence of headaches, vomiting and choked disc. Failing to verify this diagnosis, I have assumed that this condition was due to an acute cerebral edema and under dehydration regime these patients have recovered. According to reports in the literature it sometimes becomes necessary to do a decompression in some of these patients in order to save their vision, but I have not found this necessary in any of my cases.

DIAGNOSTIC AIDS

There is no substitute for a careful history and a painstaking clinical neurologic examination. However, certain laboratory and clinical studies may aid greatly in the localization of brain tumors.

Roentgen Studies. Since brain tumors may result in calcification, the diagnosis may frequently be made by stereoscopic studies of the skull. Meningiomas frequently produce a typical thickening of a localized area of the calvarium. At times tumors produce erosion of the skull. The finding of

these areas of erosion may lead to an accurate localization of the lesion, for example:

1. Cerebellopontine angle tumors may cause erosion of the petron and enlargement of the acoustic meatus.

2. Tumors at the base of the temporal lobe or frontal lobes may cause erosion of the sphenoidal ridge or of the roof of the orbit.

3. Olfactory groove lesions produce typical roentgen findings.

4. Cerebellar tumors frequently cause a marked thinning of the occipital bone over the lesion.

5. Pituitary lesions are definitely visualized by the roentgenogram in many instances.

6. Erosion of clinoid processes is also indicative of intracranial lesions.

Visual Field Determinations. These should always be accurately made when brain tumor is suspected, since the rough test is not accurate and a quadranopsia may easily be overlooked. The visual fields are frequently of the greatest aid in localizing a tumor.

Spinal Puncture. While it is possible to have normal spinal pressure in the presence of a brain tumor, there is usually an increase if the lesion has progressed sufficiently to cause symptoms. The serology itself, except as a differential point, is not diagnostic.

Brain Waves. It has been said that the determination of brain waves is of diagnostic and localizing value. However, at the present time the knowledge of these waves has not reached sufficient accuracy to warrant any dependence whatsoever on the findings.

Encephalography and Ventriculography. There is still some variance of opinion among neurologists and neurosurgeons regarding which of these procedures should be used. Some depend almost entirely upon ventriculography, stating that encephalography is dangerous in the presence of a brain tumor. Others depend almost entirely on encephalography.

The routine use of encephalography should be condemned. The tendency to use it as a shortcut to diagnosis and localization is further to be condemned as this procedure should never take the place of a careful clinical examination, and should be used only as an adjunct when it becomes necessary.

Much has been written regarding the safety of these two procedures. Some have said that encephalography is particularly dangerous in subtentorial

lesions. Others have shown that it is more dangerous in supratentorial lesions. I feel that both of these procedures have their place; both have their dangers, and neither should be used unless necessary. My own opinion regarding the use of these two procedures can be quickly stated. Neither is used unless it is impossible to definitely localize a lesion clinically. If the spinal pressure is exceedingly high, ventriculography becomes the safer procedure. If the spinal pressure is only moderately elevated, encephalography may be performed with a considerable degree of safety. If the air fails to enter the ventricles, then ventriculography is resorted to.

Ventriculography is always used where a subtentorial lesion is suspected, not because I feel that it is so much safer than encephalography, but because of the fact that, if there is a subtentorial lesion, the air in all probability will not enter the ventricles from below. Furthermore, the trephine opening made for the insertion of air can be utilized for drainage and decompression of the ventricles, which almost invariably precedes operation for subtentorial lesions. When ventriculography is performed, if the air is removed after the roentgenograms are taken, the factor of safety is greatly increased; if it is not removed, it is a dangerous procedure.

I do not subscribe to the common practice of using large amounts of air for encephalography. In some clinics complete drainage of spinal fluid is practiced. In many of them the routine procedure is to introduce more than 100 cc. of air. I rarely introduce more than 60 cc. and have frequently obtained excellent ventricular shadow determinations which were perfectly satisfactory for localization with as little as 25 cc. of air. Usually at least 45 cc. are injected, but if the patient's headache becomes too severe, I may stop when less is injected.

While a large number of plates are frequently desirable, one must at times recognize the economic side. In most instances, four plates, an anteroposterior, posteroanterior and lateral stereoscopic views are sufficient for diagnosis. The various views taken in the sitting position at times may be of great aid, but are not always necessary.

SUMMARY

This paper is not intended to be an exhaustive review of all of the diagnostic points in brain tumors. It is intended to point out some of the more typical features of lesions in various locations.

I wish to emphasize again the fact that the successful treatment of brain tumors depends upon early diagnosis and, therefore, one cannot depend upon the old triad of headaches, vomiting and choked discs since these are all too frequently the terminal signs of brain tumor.

I have presented in condensed form some of the more characteristic symptoms and signs which point toward a definite localization of these lesions, hoping in this simplified form it may aid in our quest for earlier diagnosis.

One frequently hears the statement made that brain tumors are becoming more common. This is probably not true. It is more likely that the medical profession is becoming more brain tumor conscious and diagnoses are made earlier. This is particularly true since the realization is rapidly impressing the medical profession that a working knowledge of neurology is a very important part of a doctor's armamentarium.

It is unfortunate that the science of neurology has for years been made so complicated that most doctors have shunned it. I feel that anything that can be done to impress the fact that it is not as extremely complicated as it might seem is time and effort well spent.

509 Olive Way

HEADACHES*

EDWIN D. WARREN, M.D.

TACOMA, WASH.

Headache is one of the commonest and most frequent afflictions of mankind. Although much has been written about the subject, it still remains a very much misunderstood complaint. Many patients when questioned can give very inaccurate information regarding a headache. They are often inclined to call any pain in the vicinity of the head a headache. It is only by close questioning on part of the examiner that the symptoms may lead to a diagnosis and then only if he understands the relationship of headache to disease.

When various men are questioned regarding the occurrence of headaches, they are inclined to think of them in relationship to their specialties. The oculist thinks of refractive errors or eye diseases, the allergist would be inclined to investigate his field first and the neurologist would always think of a tumor or some intracranial pathology. This is a natural thing to do.

In questioning a patient regarding headache one

should know the frequency, onset and duration of the headache. We should know if there is an hereditary background; if the headaches are worse in the morning or afternoon; if they are aggravated by prolonged use of the eyes, by excessive fatigue or hunger. We should know if there is allergy in the patient or family, or if there is or is not attendant nausea. We wish to know if posture, jarring the head, stooping, colds or drafts produce or increase it. We should know if the person has had otitis media, recent upper respiratory infection or is subject to colds or sinusitis. Most important, the person should have a routine physical examination with such special tests as our questioning and examination may direct us to order. A patient relieved of a headache is grateful and rightfully so.

HYPERTENSIVE HEADACHES

A headache that is occipital or frontal, that is persistent from day to day in a person beyond forty, that has a tendency to wear away as the day progresses suggests hypertension. There is often a full sensation in the head. The malignant form of hypertension is always accompanied by headache. The arteriosclerotic hypertension may have headache in one-third of the cases¹. It should be borne in mind that just because one has a headache and hypertension the headache may be also caused by something else. Often such patients are presbyopic and incorrectly fitted with glasses.

TRAUMATIC HEADACHE

Here it is extremely difficult to get an honest picture of the situation. When a man complains of headache or backache, the wisest doctor cannot say he does not have it. He may have an opinion about it but there is always an uncertainty. During depression years it is so frequent for people to draw disability and compensation as a result of a head trauma that statistics on this subject are valueless.

In one instance of concussion of rather severe nature, which was carried on for four years by a shrewd lawyer and disagreement among doctors, the patient was absolutely relieved by correct glasses. He had an accommodation of 4.25D which should have been 6.75D at his age. He has never had a return of the headache and was much more interested in getting well than in drawing state compensation, as shown by the fact he absolutely admitted his headaches were relieved by glasses. He had been called a neurotic and malingerer, while others thought he was in real bad condition. In this instance the refractive error was not great.

*Read before Pierce County Medical Society, Tacoma, Wash., Feb. 27, 1940

1. Woltman, H. W.: Symptoms of Headache and Some Conditions Suggested by it. *Minnesota Med.*, 23: 19-25, Jan., 1940.

When a patient complains of headache after trauma he should be given the benefit of the doubt and have complete tests. The use of encephalography in such cases has been disappointing. It seldom reveals anything and temporarily makes the headache much worse. When cortical damage is interpreted, it is helpful but so many times it may be misleading.

Fractures of the skull, especially at the base are many times overlooked, especially when we do not have good stereoscopic plates. It should also be remembered in traumatic cases that the more serious complication of chronic subdural hematoma is difficult to diagnose. It may come on days or weeks after the headache and gradually increase in intensity until serious symptoms develop.

MIGRAINE HEADACHES

The usual migraine headache is typical. There is a history of antecedents having "sick" headaches, and the description of an aura is usually present. The headache is usually severe and is not readily relieved by ordinary measures. There is attendant nausea and dizziness. They come with periodicity and become less frequent as the person grows older. Irritative sources should be removed such as focal infections, impacted teeth, refractive errors and factors contributing to an abnormal nervous environment. I have been impressed by the regularity with which migraine follows fatigue, either mental or physical. Some unusual manifestations are observed in migraine such as weakness, inability to concentrate, an animated state, periods of depression and visual disturbances even to the extent of hemianopsia.

The use of ergotamine tartrate, on the basis that there is a spasm of the vessels of the dura, has benefited many patients. Recently the use of inhalations of 100 per cent oxygen, as advocated by Alvarez², has been successful and has given relief to many who were not even relieved by ergotamine tartrate. The B.L.B. inhalation apparatus devised by Boothby is the most efficacious. When the headache is not typical of migraine and other possibilities are excluded, gynergen and oxygen should be used. When it relieves the headache, these should be classified as migraine unless otherwise proven to be different.

The headache of migraine is usually in an unhappy, cheerless, abnormally zealous, ambitious, unstable person. Usually it is not in the same place in the head during every attack and the site of pain may even shift during an attack.

SYNDROME OF VASCULAR HEADACHE

This constitutes a small number of patients of the group but a large number of the undiagnosed. Horton and MacLean³ called attention to the benefit of histamine as an aid to diagnosis as well as treatment in these cases. They are usually forty to fifty years of age. The pain is unilateral and very intense while it lasts. It is intermittent and returns with variable frequency. It is more likely to occur at night and awakens the patient. The attacks are severe. There is often a relationship to the use of alcohol which does not mean in excess. There is a rhythmic recurrence of the headaches.

HEADACHES DUE TO DISTURBANCE IN CIRCULATION

Cerebral hemorrhage and thrombosis have been considered in all of the text books and articles on the subject. In my experience headache in these conditions has not been the most prominent symptom in the very mild cases, whereas in the severe cases the diagnosis is usually so obvious that it is not difficult. In the mild cases dizziness, defect in speech, disturbance in thought or concentration, unsteadiness and visual disturbances are more common than headache. Sudden severe headache in a young person should warn one of a ruptured vessel on a syphilitic basis, and in an older person either a syphilitic or arteriosclerotic genesis.

Thrombosis of the venous sinuses leads to severe headache but the acuteness of the onset and rapid development of a chain of symptoms, such as papilledema, exophthalmos or chemosis of the conjunctiva, help make the diagnosis. When the thrombus is infected, there is a chill followed by a high fever which is intermittent.

Chronic passive congestion produces headache and it may be produced by heart failure, stenosis of the aorta or an intrathoracic tumor.

Headache during a blood transfusion is a sign that the heart has all the additional blood it can carry and especially during a direct transfusion, where the blood is given rapidly, is a sign to stop the transfusion.

Hypotension, when it occurs abnormally such as from nitrates, workmen around blasting, in mines or from drugs, is a well known fact. It is doubtful if chronic hypotension of itself produces headaches. It is true this class of people have many headaches but they are usually persons who feel poorly and are devoid of enthusiasm. I have noticed the prevalence of focal infection in cases of hypotension.

2. Alvarez, W. C.: New Treatment for Migraine. Proc. Staff Meet., Mayo Clin., 14:173-174, March 15, 1939.

3. Horton, B. T., MacLean, A. R. and Craig, W. M.: New Syndrome of Vascular Headache: Results of Treatment with Histamine Preliminary Report. Proc. Staff Meet., Mayo Clin., 14:257-260, April 26, 1939.

REFLEX HEADACHES

So many headaches have been called reflex that are not definite of anything that I am inclined to dislike this classification. It is true headaches are not uncommon with gallbladder disease, constipation and lesions elsewhere in the body, but why should these not be called toxic headaches instead of reflex? Many things, such as a tipped uterus, a twisted ovarian cyst or arthritis of the spine, have been said to cause a reflex headache without the real diagnosis of refractive error, incipient glaucoma or sinus disease having been made.

Poor occlusion following loss of teeth or an accident to the jaw will cause headache. The mandibular nerve is pressed on at the auriculotemporal branches. This is a true reflex headache. Pressure on the inferior alveolar or any of the mandibular branches by impacted teeth or dental cysts will cause headache. This is also a reflex headache.

SPHENOPALATINE GANGLION NEURALGIAS

This was first determined by Sluder and is a definite entity. These people are often not diagnosed for years. They have their glasses changed frequently. They have teeth and tonsils or appendix out and the pain persists. The location of the pain is never typical; however, it has been called a "lower half" headache. It may be in back of the neck or of the head. It becomes extremely severe at times. It is rather constant. It is hardly ever seen unless there is some disease of the posterior ethmoids or the sphenoids. It is an easy diagnosis to make because, if the sphenopalatine ganglion is properly cocaineized during the attack, relief is unmistakable. The ganglion is opposite the posterior end of the middle turbinate so, if a small amount of cocaine flakes are carried back to this area on a fine wire wound with cotton soaked with adrenalin, the diagnosis will be made. It is well to push a similar wire well anteriorly to the roof of the nose to reach the anterior ethmoidal branches also.

If the sphenoidal sinus is opened and the floor removed, the vidian nerve will be severed and the headache relieved. Such cases may be tried on heavy doses of vitamin B which in my experience has actually relieved sphenopalatine ganglion neuritis. It is almost impossible to inject the pterygoid canal.

HEADACHES DUE TO EYES

A headache that is not present in the morning but comes on gradually during the day and is worse by evening is usually an eyestrain headache. If additional information is elicited that the headache is after prolonged use of the eyes such as reading or

going to shows, it is pretty definitely so. Unfortunately all eye headaches are not so typical. Headaches due to eyestrain and eye disease constitute a large majority of all headaches. The percentage figures vary a great deal among different authors. It is placed at anywhere from 25 to 85 per cent.

The fact that a person has 20/20 in each eye does not mean necessarily he may not have eyestrain. Small errors of astigmatism often cause headache and eyestrain, while a person may have more than a diopter of astigmatism and merely get glasses because of poor vision and not because of headaches. The fact that a person wears glasses does not exclude this as a possible cause of headache, or the fact he has had a recent change of glasses does not always exclude it as a cause.

People under forty-five who are not myopic should have an examination under a cycloplegic, providing the tension is normal and the fundus is examined first. Of those who are myopic the refraction will be more satisfactory if done twice, once with cycloplegic and once without.

A person having hyperopia, who does not have relief of the headache immediately or within a few days after obtaining glasses, should not be too critical and condemn the glasses or the doctor as it takes several weeks in some instances to produce relaxation of ciliary spasm and fatigue.

Muscle errors also cause considerable headache. No refraction is complete that does not measure these factors. The vertical phorias are more inclined to give rise to headaches than other types, even when the error is not great. Exophoria is more inclined to give rise to headache than esophoria in my experience because of the additional load on convergence for near work. Convergence excess when mixed with astigmatic errors, as it usually is, does produce headache.

Ciliary weakness or fatigue can be measured by the accommodation tests. It is relieved by correct wearing of proper glasses but is often found to be aggravated by very many conditions elsewhere in the body, such as the toxins from bad teeth or tonsils, thyroid disturbances, blood dyscrasias and many others.

Ciliary spasm is created by the person trying to accommodate too much. It is usually found in the far sighted person and is also relieved by correct glasses.

A different size image in one eye as compared to the other creates confusion of the images in the brain. The complex attempt to produce adjustment creates headaches of variable intensity.

Glaucoma is one of the less common causes of headaches because incidence of the disease is not so great in proportion to the number of headaches. It is one of the leading causes of blindness and may be easily overlooked in the incipient stage as there is no redness of the eyes and the cupping of the discs has not yet occurred. It is a headache that is dull or intense and is as often in the back of the neck or occiput or in the temples as it is in the eyes and forehead.

Disease of the retina, choroid and media are free of headaches. Disease of the lids and lachrymal apparatus do not give rise to headaches. It is quite commonly stated that myopia does not produce headache. In my experience there is considerable error in this and, since becoming interested in the subject of headaches, I have paid particular attention to this and note that myopic patients often are relieved by correct glasses. It might be that, in an effort to get better vision, they compress the eyeball with the lids and set up a headache of neuromuscular fatigue.

HEADACHES FROM NERVOUS AND MENTAL DISORDERS

Mental ill health results from the combination of numerous factors which can be roughly grouped into mental, physical and constitutional. A headache should be called psychogenic until it can be proved that other causes are excluded. There is no relationship in the type of headache, its location, the time of occurrence or its severity in psychogenic cases. The mechanism is not even vaguely understood. They are usually disturbing in the function of the person. Although appetite and sleep are usually not disturbed, such people have poor work records and poor personalities, and they often blame their headaches for their inability to accomplish much. The headache may be aggravated by an unpleasant task, extra work or the prospect of being forced or obliged to do something. Often a depressive state develops, after which such individuals may be more inclined to complain of their heads than of their low spirits.

The occurrence of organic disease of the nervous system was found by Spriggs⁴ to be twenty-six out of 500 patients with chronic headache. These are of such a wide variety that it is a special subject of itself. Suffice it to say that they may be due to (1) expanding lesions such as cysts, tumors, abscesses, aneurysm, neoplasms, subdural hematoma; (2) swelling of the brain such as encephalitis, disseminated sclerosis, hemorrhage or thrombosis; (3) meningeal irritation such as epidemic or compli-

cating meningitis or the pseudo meningitis group; (4) diseases of the cerebral arteries. Headache of a tumor is constant, it is aggravated by jarring or moving the head, it will vary with position and it is genuine. It becomes progressively worse. It is on the side of the lesion in 75 per cent of cases but may be even referred to the opposite side in 10 per cent. Tumors of the posterior fossa cause headaches severe enough to be the chief complaint in 90 per cent of cases; however, the subtentorial group of tumors cause such a severe headache in only one-third of the cases. In earlier life tumor causes less pain, if it grows slowly because of more expansile structures. Coughing, sneezing, straining, turning in bed or such motions as may compress the jugular veins make the headache worse. It is possible for an intracranial tumor to go on to destruction without ever causing a headache.

HEADACHES OF SINUSITIS

Of this group the frontal headache is the easiest to define. It occurs in the morning, becomes worse in the early morning and gradually is relieved by afternoon. Most patients refer to it as a sharp or boring pain in the forehead on one side. Pressure on the floor of the frontal (Ewing's sign) elicits tenderness.

The maxillary sinuses give rise to headache much less frequently, although they are involved many times more often than the frontals. Hypoplastic disease, where there is drainage, causes headache on the involved side (providing it is unilateral which is not frequently the case). The headache may not necessarily be exactly in the antrum but may be remote from there. When it is purulent with obstruction either partial or complete, there is more pain than headache.

Sphenoiditis gives rise to headaches of all degrees of severity, many of which are very intense. The sphenoidal pain is more inclined to be in the back of the neck or back of the head than in the front. It is often missed as a factor in diagnosing headache because of many inadequate roentgenograms of this region or so many people with sphenoidal disease never having them taken. The condition of the nasopharynx, the shape of the septum and the turbinates in the immediate region of the sphenoid and the presence of other diseased sinuses help to make the diagnosis as well as relief of the headache by treatment.

Ethmoiditis is more inclined to give rise to headaches when in the posterior sinuses. The headache of ethmoiditis is usually not as intense as that from sphenoidal or frontal disease but is much more

4. Spriggs, E.: Clinical Study of Headaches. *Lancet*, 2:1, July 6, 1935; 63, July 13, 1935.

prevalent. Many people can have ethmoiditis for years and never have a headache. It is not constant, being usually worse in the forenoon or around noon. It is best proven when suction and shrinkage, heat or drainage relieves the headache. Roentgenograms and the presence of sinusitis elsewhere as well as the condition of the nasopharynx help to establish its presence. Pressure of a thick deviated septum on adjacent structure may relieve a headache, and it is permanently relieved by submucous resection of the nasal septum. This is not by any means a rare condition.

MISCELLANEOUS HEADACHES

Many headaches are never diagnosed and go from one place to another. Very common is the toxic headache. The mechanism of this is not certain, though it is probable that the toxic effect on the eyes contributes to the actual mechanism of the headache. Foremost in this field is the dead or abscessed tooth. Because the person is edentulous does not exclude the possibility of abscessed teeth. In suspected cases the gums should be roentgenized for remaining teeth.

Other causes may be toxicity of industries such as chlorine, arsenate of lead, exhaust fumes in poorly ventilated garages, engravers and printers, dye industries and various others. Poor ventilation, lack of oxygen, a stuffy, overcrowded room or one with excessive smoke may produce headache.

Finally, there is the headache from the night before or taking an overdose of intoxicating liquor. The amount of liquor that will cause headache in one person and not in another is variable because many people are allergic to the malt and grains that go to make the liquor. It is doubtful if such a thing as a true allergy to alcohol does exist.

CONCLUSIONS

1. Headache is one of the most common complaints seen in medical practice. It can also be the most complex and bewildering.

2. The intricacies of headaches make it necessary for cooperation between the various specialists and particularly the general practitioner to eventually establish a diagnosis and relief of the ailment.

3. Headaches due to the eyes and sinuses constitute by far the largest number.

4. An effort has been made to classify headaches to assist in correlating them.

5. So vast a subject cannot be completely covered in a short monograph.

6. Opinions have changed regarding vascular, migraine and posttraumatic headaches in the past few years.

616 Medical Arts Bldg.

VASCULAR SYNDROME HEADACHE

REPORT OF CASE WITH NOTE ON MECHANISM OF HISTAMINE THERAPY

JOHN H. BESSON, M.D.

PORTLAND, ORE.

Horton, McLean and Craig¹ observed and treated eighty-four patients presenting a specific type of headache, classical in its symptomatology and unique in its response to histamine. They were disabled by the disorder and found no relief from usual methods of treatment. The cases had been diagnosed anything from "psychoneurosis" to "organic lesions," and most of them were ready to submit to any operation for relief.



Fig. 1. Approximate area of pain, right eye included.

Here I wish to report a case of this new syndrome of vascular headache with its cure by histamine.

Mr. A. E., age 30, laborer. Family history revealed no intractable headaches, tuberculosis, diabetes, epilepsy or allergic diseases. Father and mother both living. The patient has taken aspirin, bromoseltzer, etc. "by the thousands" and other medicines for pain by prescription.

Had childhood diseases and "three tonsillectomies." Skull fracture 1926 and was disoriented for over one week. Suffered fractured nose at the same time. Some seven years ago was black jacked and lost consciousness for a short period. Had another bump on the head which shook him up considerably about two years ago. The case has been diagnosed as sinusitis and he had a nasal operation for relief.

Present complaint. For the past ten years has had recurring attacks of severe headache. During an attack, which

1. Horton, B. T., MacLean, A. R. and Craig, W. M.: New Syndrome of Vascular Headache. Proc. Staff Meet. Mayo Clinic, 14:257-260, April 26, 1939.

may occur from two to six times a day, pain starts in the right supraorbital area and works around the right side of the head, ear, temporal and occipital areas and down into the throat and right side of the neck (fig. 1). "The eye feels as though it would pop out" and the nose becomes greatly congested, the eye red and streaming with tears. The attacks are likely to waken the patient out of a sound sleep and are aggravated by bending over and lying down.

Physical examination showed a well nourished adult 5 ft. 10 inches, weighing 160 lbs.; B.P. 110/85; eyes and other reflexes apparently normal; nose, marked septum deviation; chest, heart, lungs negative; no abdominal pathology. My first impression was of tic douloureux but there were no trigger zones and the distribution did not follow any one of the branches of the trigeminus.

October 3, 1939, a subcutaneous injection of 0.5 mg. of histamine was given and in four minutes the patient stated a headache was beginning and in twenty minutes was very severe. There was great congestion of the right eye with marked lachrymation, the patient swaying on his chair, holding his head and calling for a hot water bottle and relief. This, the patient stated, was a replica of his attacks. After a half hour it was somewhat alleviated by adrenalin and one-half hour later nembutal was given but without entire relief in another twenty minutes. October 4, he was given intramuscular injections of 0.05 mg. histamine twice daily which were gradually increased to 0.075 mg. in the course of five days. There was slight aggravation and the dosage returned to 0.066 mg. Later the dosages were gradually increased until 0.1 was reached October 27, at which time there had been only four attacks in the previous week. Starting November 9, 0.1 mg was given twice weekly and the treatment discontinued February 12, 1940, with no further return of headache of the character described.

DISCUSSION

Diagnosis. In addition to the brief case findings as shown above, the patients often complain of clocklike regularity of the attacks of pain, particularly at night. Signs of localized vasodilatation with the pain are noted. Scotoma and stomach upsets are not associated. Digital compression over the common carotid artery on the side of the pain frequently affords relief.

Mechanism of action of histamine in relieving the headache. Reproduction by histamine of the typical syndrome was also reported by Horton, McLean and Craig in 25 of their 84 cases of this type of headache, 65 of which experienced excellent results when treated with histamine. Their report states: "Associated with the pain following the injection of histamine the phenomena of vasodilatation noted in the spontaneous attacks were reproduced. Patients were unable to differentiate between the induced and spontaneous attacks."

Oliver Wendell Holmes,² a half century ago, had little notion of idiosyncrasy, sensitivity, vaccine therapy, allergy and such. "The hair of the dog that bites you" kind of therapy only served to rouse in him ridicule: "Would you give arsenic for arsenic poisoning?" However, for years small doses of rhus tox by mouth and later hypodermically

have served to act curatively in innumerable cases of poison oak and poison ivy. Recognizing, then, the simile in medicine, we are not bewildered to find that oxalic acid, while preventing coagulation in the test tube, is a valuable remedy for certain types of hemorrhage and is commonly used in the form of koagimin.³ Likewise, we understand that such a blood and capillary disintegrator as mocasin venom can well be used as a remedy in some of the blood dyscrasias, purpura, etc. While Peck⁴ felt that the venom not only contains hemorrhagins but also antihemorrhagic principles, yet as a remedy the principles are not isolated when a minute dose of the entire venom is used therapeutically.

One may speculate to one's heart's content on the pathology of this type of vascular headache and classify this therapy as a desensitization process. Probably the age old simile principle is presented, viz., the production of a symptom-complex, amounting in fact to complete reproduction of a disease picture, by a drug or substance which is then used in the successful treatment of the similar and true disease.

3. Steinberg, A. and Brown, W. R.: New Concept Regarding Mechanism of Clotting and Control of Hemorrhage. *Am. J. Physiol.*, June, 1939.

4. Peck, S. M.: Attempts at Treatment of Hemorrhagic Diathesis by Injections of Snake Venom. *Proc. Soc. Exper. Biol. & Med.* 29:579-581, Feb., 1932.

TREATMENT WITH VITAMINS*

DWIGHT L. WILBUR, M. D.

SAN FRANCISCO, CALIF.

CONCLUDED

Habitual and Threatened Abortion. Administration of concentrates of vitamin E in the form of wheat germ oil does not appear to have any therapeutic value in man, with the possible exception of some cases of habitual and threatened abortion. Shute⁶, Currie⁷ and others have reported good results in patients with these conditions following treatment with wheat germ oil. The amounts used by Shute consist of an initial dose of six to ten teaspoons of wheat germ oil, followed subsequently by one teaspoonful each day. There is no commonly accepted unit of vitamin E. Synthetic substances having the activity of vitamin E probably are available for therapeutic use. Alpha-tocopherol is one such substance.

It is difficult to prove that vitamin E is of value in treatment of sterility and habitual abortion in human beings, and much more clinical evidence is greatly needed to establish the usefulness of vitamin E therapy in abnormal human reproduction.

6. Shute, E.: Early Diagnosis of Abruptio Placentae and its Treatment with Wheat Germ Oil, *Am. J. Obst. & Gynec.*, 33:429-436, March, 1937.

7. Currie, D.: Vitamin E in Treatment of Habitual Abortion. *Brit. Med. J.*, 2:1218-1220, Dec. 18, 1938.

2. Holmes, O. W.: *Medical Essays 1842-1882*. Houghton Mifflin Co., Boston, 1883.

USE OF VITAMIN SUPPLEMENTS FOR DIETS PLANNED
FOR THERAPEUTIC USES AND DURING PREGNANCY
AND LACTATION

Therapeutic Diets. For patients who wish to reduce weight and for those with allergic diseases, chronic disorders of the digestive tract, such as peptic ulcer, chronic ulcerative colitis and nervous indigestion and for those with chronic cardiac and renal disorders, care must be exercised in planning a diet which adequately will meet the vitamin, protein and mineral requirements of the patient. This is of particular importance because frequently the limited diet which these patients follow for long periods of time is composed in large part of foods which are low in content of vitamins.

If the diet cannot be planned to meet the requirements of the individual for vitamins, supplements of them should be administered. Rarely is such a limited diet deficient in all of the vitamins. If it is deficient in any of them, it will most likely be deficient in components of the vitamin B complex.

Deficiency in the therapeutic diet may easily be overcome by administration of a potent natural source of vitamin B complex such as brewers yeast or wheat germ in amounts containing 300 to 600 international units of B₁ (1 to 2 mg.). A natural source of vitamin B complex containing this amount of vitamin B₁ usually will contain sufficient amounts of the other components of the complex to meet ordinary demands. A deficiency of vitamin A in a therapeutically administered diet may be compensated for by supplements of cod liver oil or other fish liver oils, such as halibut liver oil in doses of 2000 to 4000 USP units daily, while deficiency of vitamin C may be controlled by supplements of crystalline vitamin in doses of 40 to 100 mg. Many physicians prefer to use one of the "shot gun" vitamin mixtures which are marketed by several pharmaceutical companies. While this is a simple means of administering some of the vitamins, it has several disadvantages which the physician should appreciate. The Councils on Pharmacy and Chemistry and on Foods of the American Medical Association recently have reaffirmed a previous stand against accepting such preparations.

Pregnancy and Lactation. The requirements for vitamins during pregnancy and lactation are considerably increased (table 5). In order successfully to meet these requirements, the physician must pay particular attention to the diet in the last trimester of pregnancy and during lactation. It is wise to supplement even a well balanced diet with sufficient amounts of vitamin concentrates and synthetic products to meet the general levels of requirements

stated in the table. Cod liver oil or some of the fish oils containing vitamin A and D, dried brewers yeast and synthetic vitamin C in the proper dose should meet this situation adequately. If the patient is observed for the first time in the latter half of pregnancy and during lactation and has not previously been on an adequate diet, it is advisable to give large amounts of the vitamins for a week and then to return to amounts more nearly reaching the requirements.

USE OF VITAMINS IN THE TREATMENT OF CONDI-
TIONS APPARENTLY NOT DUE TO DEFICIENCY OF
VITAMINS

Certain of the vitamins have been found to be of some value in treatment of conditions apparently not due to deficiency of vitamins. For example, vitamin D therapy has been used in treatment of arthritis and reports have been published of its successful use in treatment of psoriasis, asthma, acne and other conditions. Doses used have varied from 200,000 to 1,000,000 USP units daily. Recently it has been stated that in some cases of trigeminal neuralgia treatment with vitamin B₁ has been successful.

Arthritis. In arthritis of the rheumatoid or chronic infectious type variable results of treatment with large doses of vitamin D have been noted. Abrams and Bauer⁸, who recently have summarized their experience with it, have stated that results they have obtained indicate that administration of massive doses of vitamin D in rheumatoid arthritis is of little or no value in alleviating the cause of the disease and does not justify the expense and danger involved.

Psoriasis. Several reports of the favorable effect of massive doses of vitamin D in psoriasis have been published but, as the Councils on Pharmacy and Chemistry and on Foods of the American Medical Association⁴ have stated, the effect of the treatment is not yet well enough established to justify a claim for its use. The Councils believe that further studies should be conducted, but because of the possible toxic effects of large doses of vitamin D it is necessary that such studies should be made only in clinics where close supervision is possible.

Trigeminal Neuralgia. Treatment of this condition with massive doses of vitamin B₁ still is in the stage of development. However, Borsook⁹ and others have reported encouraging results. The usual treatment consists of administering thiamin in 10 mg. doses intravenously or intramuscularly daily,

8 Abrams, W. R. and Bauer, W.: Treatment of Rheumatoid Arthritis with Large Doses of Vitamin D, J.A.M.A., 111:1633-1639, Oct. 29, 1938.

9. Borsook, H.: Unpublished data.

supplemented with large doses of a vitamin B concentrate orally. It may be necessary to continue this treatment over a long period, as favorable results may not appear for two or three months.

EFFECTS OF OVERDOSAGE OF THE VITAMINS

With the exception of the established toxicity of very large doses of vitamin D or of improperly irradiated ergosterol, there is no evidence that administration of any of the vitamins in ordinary doses or in massive doses is in any way harmful. In fact, doses many times larger than the maximum therapeutic doses of vitamin A, B₁, C and nicotinic acid have been administered without harmful effect.

Vitamin D in doses of 150,000 USP units or more may give rise to toxic symptoms, including increased frequency of urination, anorexia, nausea, acute gastrointestinal irritability, muscular weakness, lassitude, dull aching in the muscles, dizziness and disturbed muscular coordination and equilibrium. If administration of the vitamin is stopped after onset of toxic symptoms it is very unlikely that any serious results will follow.

There is ample evidence to indicate that administration of cod liver oil in ordinary therapeutic doses does not lead to the development of toxic and degenerative conditions in the heart and other tissues.

METHODS OF ADMINISTERING VITAMINS

Foods. Foods are the only natural and normal source of vitamins except for vitamin D which is formed in the skin when sunlight (ultraviolet light) falls upon it. In table 3 is a list of the foods highest in content of each of the known vitamins. A foundation or protective diet, one containing vitamins and other essential foods in amounts sufficient to meet the known optimal requirements of them, is given in table 1. In table 2 is listed a therapeutic diet high in vitamins and calories. Either of these diets may be supplemented with additional amounts of foods which are particularly good sources of vitamins. If it is necessary for a patient to take only liquid or soft foods, the diet may consist of frequent feedings of the liquid or soft foods noted in the tables. Grinding or scraping of meat, pureeing of vegetables and fruits for administration as soft foods ordinarily does not seriously impair their content of vitamins beyond the impairment resulting from ordinary methods of cooking and serving them.

Supplements. See table 4 for preparations which may be used orally or parenterally.

In regard to the use of "shotgun" vitamin mixtures, the Councils on Pharmacy and Chemistry and on Foods of the American Medical Association in December, 1938, took the following stand:

"These vitamin mixtures may be a commercial success, but they cannot replace the need for adequate amounts of a well-balanced diet. Vitamin mixtures may have some reason behind the selection of vitamins which they contain and the amounts of each that are present, but if so, the reason is a 'trade secret' which has not been divulged. Certainly there is no rational basis for placing in capsules amounts of vitamin A and D which, in the amounts recommended by the firms, are several times a therapeutic dose, and amounts of vitamin B₁ and riboflavin which are almost insignificant compared to the contribution which an adequate diet would supply. Advertising campaigns and other efforts to promote the indiscriminate use of expensive polyvitamin mixtures are unfortunate because the 'educational' program is not based on sound principles of nutrition or medicine. It is not denied that there may be a limited field in which polyvitamin mixtures may be useful, if the qualitative and quantitative composition of the mixtures were scientifically rational. It is conceivable, for example, that a physician might desire to provide a patient on a restricted therapeutic diet with vitamins which ordinarily are supplied by an adequate diet. But the available preparations of vitamin mixtures obviously cannot solve the problem of giving a patient the vitamins and food which he needs. The use of vitamin mixtures by the public is no assurance of 'good health'; their daily use is no guarantee that all of the vitamins which a person must secure will be provided.

"The Committee reaffirmed the policy of the Council on Pharmacy and Chemistry not to accept irrational fabricated mixtures of vitamins. The two councils concurred."

SUMMARY

Vitamins rapidly have become very important therapeutic agents. Many physicians and patients are apt to think of them as drugs. Consequently, it is very important to emphasize that vitamins are foods and not drugs. Indeed, it has been well said that the grocery store is more important than the drug store in the prevention and treatment of vitamin deficiency diseases.

For purposes of therapy vitamins are of greatest value in treatment of states of vitamin deficiency. The important principles of treatment of such conditions are (1) use of a well balanced diet high in content of vitamin, minerals and proteins, (2) supplements to the diet in the form of foods or food concentrates rich in naturally occurring vitamins and in the form of synthetic crystalline vitamins, and (3) use of massive doses of the vitamins early in the course of treatment.

Supplements of vitamins to the diet may be essential for patients who for long periods of time will be on diets which are limited for therapeutic reasons, for patients during periods of acute and chronic infections and during pregnancy and lactation.

Large doses of vitamins may prove effective in treatment of diseases such as arthritis and psoriasis not clearly the result of deficiencies of them.

When used in ordinary therapeutic amounts, toxic effects from overdosage of vitamins do not occur, with the possible exception of the effects of vitamin D.

STATE SECTIONS

IDAHO STATE MEDICAL ASSOCIATION



**FORTY-NINTH ANNUAL
MEETING, SUN VALLEY,
JUNE 18-21, 1941**

**IDAHO STATE MEDICAL ASSOCIATION
PROCEEDINGS OF THE FORTY-EIGHTH ANNUAL
MEETING OF IDAHO STATE MEDICAL ASSO-
CIATION, SUN VALLEY, SEPT. 11-15, 1940.**

PRESIDENT'S ADDRESS

PROBLEMS CONFRONTING THE MEDICAL PROFESSION

F. M. COLE, M.D.
CALDWELL, IDA.

Idaho State Medical Association was born September 12, 1893. At the call of Dr. C. L. Sweet, a meeting of twenty-nine interested doctors gathered in the council chamber of the city hall in Boise and there formed the organization. Of the charter members two are still living, Dr. Sweet, the first secretary, lives in California and Dr. Hall in Boise. From this date annual meetings have been held. The usual custom of having either members of the society or inviting physicians from other localities to present scientific papers was followed.

The body that began with twenty-nine members has grown to more than three hundred which is seventy-five per cent of those practicing medicine in this state.

In 1935 Dr. C. R. Scott, then president, instituted the plan of a postgraduate course to be given by one of the great universities and having the program correlated by the medical school. He secured Northwestern University for that year and this custom has been followed since that date, and has been copied by many other state associations. Northwestern University was followed by University of Michigan, Minnesota, Washington University, University of California and now by University of Iowa.

This year the program committee arranged for courses of instruction by members of our own association. We believe this will prove another mark of advancement for future programs.

The last few years, in addition to the scientific program, we have considered problems confronting those engaged in medical practice. We had hoped to have Dr. Morris Fishbein and Dr. Harry E. Rhodhamel of Spokane, Washington, to speak on this subject. We were greatly disappointed when neither of these men was able to keep his appointment.

The problems are many. Officers of our national body have been tried for violation of the Sherman Act. An effort to discredit the profession by trial, to determine the question as to whether medical practice is a trade or profession, is in progress. Efforts to inject contract practice for the government has been pressed as a wedge to break up the system. Much has been written of our faults, in spite of the

fact that this nation under private practice has the lowest sickness record in the world.

Just now we have the problem of national medical preparedness and also that of a plan to build hospitals in rural communities with government funds. If these hospitals are built, the small communities will not be able to furnish funds for maintenance and the government will soon be in the business of running hospitals and the active practice of medicine. The history will probably be parallel to that of other experimental ventures, as example the R. F. C. This agency was formed in the Hoover administration to meet an emergency and was to live but two years. It has now outlived its expectancy by more than ten years and is still vigorous; not only that, it has proved to be a very vigorous parent. There are now no less than thirty-eight governmental agencies loaning money and are controlled from Washington.

It is a mistake, however, to consider the troubles of our profession as a disease. These things do not constitute a disease but are symptoms just as the distress of railroad people, manufacturers, lawyers, bankers, farmers and more than two hundred and twenty-five other private enterprises that are harassed by government interference.

Diagnosis: The disease is a tendency to national socialism.

Etiology: The lack of "eternal vigilance." A feeling of defeatism by the people or, as one columnist has said, a feeling of "oh hell, what's the use."

Pathology: If the progress is not curbed, cancellation of value of life insurance policies and savings of every kind, complete liquidation of the great middle class, loss of liberty for all may be anticipated.

Treatment: Election of a Constitutionalist for president will help. Election of strong men to Congress is still more important. Neither of these, however, will effect a permanent cure. The only specific treatment that will relieve our trouble is to arouse public activity. Thomas Jefferson said, when he was faced with a great crisis, "We will ring every doorbell in the land; the people must be warned."

During the last few months we have seen the power of public opinion demonstrated in the defeat of the purge, court packing and the reorganization bill. These measures were proposed by a President still in the zenith of his power to a Congress that has been acting very much as a rubber stamp; yet these measures were defeated by public opinion. All praise to the big men in Congress who were the first line of defense, and held until the voice of the people could win the cause.

Lincoln said of the people. "We will meanly lose or nobly save this best hope of the earth."

Prognosis: It is good. We still have the Bill of Rights and

the Constitution. The Constitution is badly damaged and is encumbered by a terrible mortgage but it still lives.

If we can preserve our present form of government, the American people will survive every crisis, win every necessary war and somehow pay the terrible debt that has been placed on its shoulders. I sincerely hope we may not be forced to bow our heads in shame and say to the incoming generation: "You lost your liberty during our lifetime."

HOUSE OF DELEGATES

FIRST SESSION

September 10

The meeting was called to order by the President, F. M. Cole, Caldwell, at 8 p.m.

Appointment of the credentials committee was as follows: G. O. A. Kellogg, Nampa; Parley Nelson, Rexburg; D. C. Ray, Pocatello.

Awaiting report of the credentials committee, minutes of the 1939 meeting were read and approved.

The following delegates were present: F. M. Cole, Caldwell, President; A. M. Newton, Pocatello, President-Elect; J. N. Davis, Twin Falls, Secretary-Treasurer; W. W. Beck, Blackfoot, Councilor; W. O. Clark, Lewiston, Councilor; F. M. Sprague, Boise; G. O. A. Kellogg, Nampa; A. C. Jones, Boise; S. M. Poindexter, Boise; Elizabeth Curtis, Weiser; J. T. Wood, Couer d'Alene; R. M. Howell, Bonners Ferry; H. L. Schiess, Shelly; H. B. Woolley, Idaho Falls; Parley Nelson, Rexburg; Glen McCaffery, Kellogg; J. O. Cromwell, Blackfoot; D. C. Ray, Pocatello; W. F. Howard, Pocatello; B. C. Eisenberg, Pocatello; R. T. Hopkins, Orofino; A. J. White, Genesee; P. M. Ellis, Wallace.

Errors in the list of delegates for Southwestern Medical Society were corrected and the following men certified:

H. W. Stone, Boise; W. B. Handford, Caldwell; G. O. A. Kellogg, Nampa; E. D. Parkinson, Payette; A. C. Jones, Boise; S. M. Poindexter, Boise; Elizabeth Curtis, Weiser; L. R. Rodwell, Nampa; L. E. Jewell, Meridian; F. B. Jeppesen, Boise.

All other credentials were found correct. Report of committee accepted.

By recommendation, B. C. Eisenberg, Pocatello, was recommended as the fifth delegate from Pocatello Medical Society. His credentials had not arrived.

On motion by W. O. Clark of Lewiston, A. J. White, Genesee, an alternate was seated instead of R. T. Scott, Nampa, the regular delegate who was absent.

R. M. Howell, Bonners Ferry, was seated in the absence of C. C. Wendle, Sandpoint.

H. L. Schiess, Shelley, H. B. Woolley, Idaho Falls, both alternates, were seated in the House of Delegates in absence of A. R. Soderquist, Idaho Falls, and W. R. Abbott, Idaho Falls, the regular delegates.

F. M. Sprague, Boise and J. L. Stewart, Boise, alternates, were seated in place of H. W. Stone, Boise, and W. B. Handford, Caldwell, delegates who will be absent.

The following committees were appointed:

Nominating Committee, J. L. Stewart, Boise; W. O. Clark, Lewiston; Parley Nelson, Rexburg.

Resolutions Committee, E. N. Roberts, Pocatello; H. B. Woolley, Idaho Falls; S. M. Poindexter, Boise; J. T. Wood, Couer d'Alene; W. F. Passer, Twin Falls.

Public Relations Committee

Since I am unable to attend the meeting of Idaho State Medical Association this year, I wish to make the following brief report of the activities of the Public Relations Committee.

This committee sponsored a public meeting last February at Hotel Boise, at which public health problems were discussed by O. F. Swindell, M. B. Shaw, Harmon Tremaine,

A. M. Popma and G. H. Bischoff. This meeting was well attended and received favorable comment by the laity.

This committee corresponded with the American Medical Association concerning radio broadcasts on medical subjects. It furnished the radio talks of various lengths. When the subject of radio talks was brought up before a meeting of the St. Luke's Hospital staff, opinion on the advisability of giving such talks was so divided that the matter was dropped. It should be stated that the local broadcasting company, KIDO, was anxious to have a series of medical talks handled by the local physicians' organization. It is the opinion of this committee that, unless the physicians themselves wholeheartedly endorse a radio program, the project had best be omitted in the future.

ROBERT S. SMITH,
Chairman

Earl Whedon, Sheridan, Wyoming, Chairman of the Rocky Mountain Medical Conference presented their plan and extended an invitation to Idaho to join the Conference at the 1941 meeting in Yellowstone Park, tentatively dated as of Sept. 2. To consider this invitation, the following committee was appointed: A. M. Newton, Pocatello; C. W. Pond, Pocatello; G. O. A. Kellogg, Nampa; J. N. Davis, Twin Falls.

SECOND SESSION

September 12, 7:30 a.m.

The session was called to order by President F. M. Cole.

The following delegates were present: F. M. Cole, Caldwell; A. M. Newton, Pocatello; J. N. Davis, Twin Falls; W. O. Koelsch, Boise; W. W. Beck, Blackfoot; W. O. Clark, Lewiston; F. M. Sprague, Boise; J. L. Stewart, Boise; A. C. Jones, Boise; S. M. Poindexter, Boise; Elizabeth Curtis, Weiser; F. B. Jeppesen, Boise; J. T. Wood, Couer d'Alene; C. B. Beymer, Twin Falls; J. W. Marshall, Twin Falls; E. H. Elmore, Rupert; C. C. Wendle, Sandpoint; Glenn McCaffery, Kellogg; J. O. Cromwell, Blackfoot; O. H. Mabey, Malad; D. C. Ray, Pocatello; W. F. Howard, Pocatello; B. C. Eisenberg, Pocatello; R. T. Hopkins, Orofino; D. M. Loehr, Moscow; A. J. White, Genesee; Parley Nelson, Rexburg.

Under new business, J. L. Stewart discussed the feasibility of a liaison committee to consult with the Industrial Accident Commission and moved that such a committee be appointed, consisting of five members, who should serve a staggered term. Seconded by D. C. Ray.

An amendment was moved by W. F. Howard to the effect that the Council be designated as this committee. After much discussion the amendment was voted upon and lost. The original motion was voted upon and carried by a large majority.

Parley Nelson discussed the feasibility of revamping the Medical Practice Act. Moved a committee of five be appointed by the President to rewrite the Medical Practice Act. Following much discussion and added information from the Department of Professional Licenses that the Medical Practice Act itself was sufficient and that only minor changes and corrections were needed, Dr. Nelson withdrew his motion.

The meeting adjourned to meet at 7:30 a.m., Sept. 13.

THIRD SESSION

September 13, 7:30 a.m.

The meeting was called to order by President, F. M. Cole.

The following delegates were present: F. M. Cole, Caldwell; A. M. Newton, Pocatello; J. N. Davis, Twin Falls; W. O. Koelsch, Boise; W. W. Beck, Blackfoot; W. O. Clark, Lewiston; F. M. Sprague, Boise; J. L. Stewart, Boise; G. O. A. Kellogg, Nampa; E. D. Parkinson, Payette; A. C. Jones, Boise; S. M. Poindexter, Boise; Elizabeth Curtis, Weiser; R. T. Hopkins, Orofino; D. M. Loehr, Moscow; R. T. Scott, Nampa; Parley Nelson, Rexburg; R. L. Rod-

well, Nampa; L. E. Jewell, Meridian; F. B. Jeppesen, Boise; J. T. Wood, Couer d'Alene; W. F. Passer, Twin Falls; J. W. Wurster, Buhl; E. H. Elmore, Rupert; V. H. Anderson, Buhl; C. C. Wendle, Sandpoint; A. R. Soderquist, Idaho Falls; H. B. Woolley, Idaho Falls; Glenn McCaffery, Kellogg; J. O. Cromwell, Blackfoot; O. H. Mabey, Malad; W. F. Howard, Pocatello; B. C. Eisenberg, Pocatello.

On motion, delegates of Southside Medical Society, J. W. Wurster, Buhl, and V. H. Anderson, Buhl, were seated, displacing C. B. Beymer, Twin Falls, and J. W. Marshall, Twin Falls.

Election of Officers

The first order of business was election of officers. The nominating committee read its report as follows:

President-elect: Paul M. Ellis, Wallace.
Secretary-Treasurer: F. B. Jeppesen, Boise.
Councilor, North District: A. C. Jones, Boise.

On motion by Parley Nelson, it was voted that the report be accepted and the Secretary be instructed to cast a unanimity ballot for the officers indicated.

Cancer Committee

Report of the Cancer Committee was given by W. F. Howard. Following discussion, J. L. Stewart moved that the report be accepted and that the Medical Association contribute the sum of \$300 to the Women's Field Army. Following much discussion, the motion carried.

Industrial Medicine Committee

The Committee on Industrial Medicine recommended that a one hour lecture be provided at the next annual meeting and the State Director of Industrial Medicine be informed of this recommendation.

RESOLUTIONS

1. Rocky Mountain Medical Conference

Whereas: Idaho State Medical Association wishes to perpetuate the scientific values and fraternalism of the Rocky Mountain Medical Conference as demonstrated at the first meeting of that Conference held in Denver, Colorado, July 19-21, 1937; and Salt Lake City, Utah, September 2-7, 1939; and

Whereas: The Medical Association of Montana approves the recommendations of said Conference for a plan of perpetuating a liaison organization between the State Medical Societies of New Mexico, Utah, Wyoming, Colorado and Montana; now therefore be it

Resolved: By the House of Delegates of Idaho State Medical Association

First, that there is hereby created a continuing special committee to be known as the Committee on Rocky Mountain Medical Conference;

serving terms so arranged that the term of one member shall expire each year;

Second, that said committee shall consist of five members

Third, that said committee shall be appointed by the President of the Association, future appointments to fill vacancies or expired terms to be made by the current President;

Fourth, that the current President and Secretary of this Association shall be, ex-officio, additional members of said committee, and

Fifth, that said committee shall be and hereby is authorized and empowered to represent the Medical Association of Montana in all matters relating to the Rocky Mountain Medical Conference, subject to the by-laws of the Society.

Presented by Earl Whedon, Sheridan, Wyoming, with his invitation.

Moved by E. N. Roberts and seconded by Parley Nelson, that the invitation be rejected and our appreciation of the efforts of Dr. Whedon be expressed. Resolution adopted.

2. Farm Security Administration

Whereas: The United States Department of Agriculture

through the Farm Security Administration is engaged in the rehabilitation of low income farm families and,

Whereas: Health is the foundation of a program of rehabilitation and,

Whereas: Idaho State Medical Association is always willing and anxious to do its part in all sound measures of social reconstruction,

Resolved: By the House of Delegates of Idaho State Medical Association that the general plan of the Farm Security Administration for medical care be approved; that the details of the plan for services by participating families be agreed upon by local county medical societies and officials of the Farm Security Administration and that a copy of such agreement be filed with the Secretary of the Idaho State Medical Association so that the officers of the State Association will be assured that the accepted standards of medical ethics and economics be protected.

This resolution was defeated.

3. Public Health Department of Idaho

Resolved: That we express our approval and appreciation of the work being done by the Public Health Department in the State of Idaho.

Motion adopted.

4. Tuberculosis

Inasmuch as care of advanced tuberculosis patients is wholly inadequate and they are being cared for on relief and at improvised homes, and are a constant menace by contact with others, be it

Resolved: That we urge the extension of facilities be made available in form of funds for this situation.

Resolution was adopted.

5. Military Affairs Committee

Whereas: Military and medical problems are becoming more important and are vitally related to each other, and

Whereas: The various state medical associations should and will take an active role in military-medical problems of the various states, and further, that Idaho State Medical Association has a large percentage of its members already active in military matters, it is desirable for the Idaho State Medical Association to cooperate and assist, therefore be it

Resolved: That the President of Idaho State Medical Association be empowered to name a military committee, from its members, such committee to have at least one member representative of the United States Reserve Officers, the Idaho National Guard Medical Officers, and member of the American Legion, the function of this committee to be the securing of closer relationships between the State Association and all military matters.

This resolution was defeated.

6. Availability for Military Service

Whereas: Military and medical problems are becoming more important and are vitally related to each other, therefore be it

Resolved: That each component society through a committee shall list the doctors within its area as they are available for military service, and state the order of their ability; this listing of doctors shall be forwarded to the state chairman on military preparedness for his information.

This resolution was defeated.

Explanation: Inasmuch as the American Medical Association through its Committee on Medical Preparedness covered all of the provisions of Resolutions 5 and 6, they were deemed unnecessary. Moved by E. N. Roberts and seconded by G. O. A. Kellogg, that we express our approval of the American Medical Association Medical Preparedness program as represented in Idaho by the National Committeeman, J. N. Davis. Motion adopted.

7. University of Iowa Faculty

Resolved: That we express our sincere appreciation and thanks to the members of the faculty of the University of Iowa Medical School for the excellent course of instruction which they have furnished us. Motion adopted.

Meeting Place

A supplemental report of the Nominating Committee was read and recommended that Boise be chosen as the meeting place for the 1941 meeting. Moved by Parley Nelson and seconded by C. W. Pond that the recommendation be rejected and Sun Valley be chosen for the 1941 meeting place. Carried.

Date of Meeting

The matter of dates was discussed and in view of the American Medical Association meeting being set for June 2, 1941, a later date in June was suggested. On motion of C. W. Pond, and seconded by F. B. Jeppesen, the month of June was selected.

Premedical Course

J. W. Wurster, A. C. Jones D. M. Loehr, and F. C. Gibson discussed at some length the premedical course at the University of Idaho, condemning it as being inadequate. It was voted that the chair appoint a committee of three to present the requirements of a premedical course as outlined by our medical schools to President Harrison Dale of the University of Idaho.

The Secretary's annual report was read, including the financial, society standings and activities.

Secretary's Report

RECEIPTS AND DISBURSEMENTS

Aug. 26 to Sept. 7, 1940

REVENUE RECEIVED	
General Fund Dues.....	\$2,724.00
Local Society Dues.....	424.00
Northwest Medicine Dues.....	542.00
Scientific Displays	210.00
Convention Receipts	895.00
	\$ 4,795.00
DISBURSEMENTS	
Remittances to Local Societies.....	\$ 461.00
Remittances to Northwest Medicine.....	566.00
1939 Convention Expenses.....	895.90
1940 Convention Expenses.....	23.32
Office Expenses	189.97
Periodicals	25.00
Printing and Stationery	113.75
Salaries	697.50
Telephone and Telegraph.....	182.93
Traveling Expenses.....	544.60
	\$ 3,699.97
Investment in Government Savings Bonds.....	750.00
	345.03
Cash on hand at beginning of period.....	1,743.90
Cash on hand at end of period.....	\$ 2,088.93
BALANCE SHEET	
As of September 7, 1940	
ASSETS	
Twin Falls Bank and Trust Company.....	\$ 2,088.93
First Nat. Bank of Boise (Savings Account).....	1,212.81
U. S. Savings Bonds.....	11,250.00
Office Equipment	\$ 185.65
Less Depreciation	74.24
Northwest Medicine.....	21.00
	\$14,684.15
LIABILITIES	
Local Society Assesments.....	\$ 231.00
Idaho Medical Foundation.....	10,500.00
Surplus	3,953.15
	\$14,684.15

Component Societies

Following is the present standing of the several component Societies in the State of Idaho as of September 11, 1940:

Society	Popu- lation	Member- ship	Paid	Honorary
Bonner Boundary....	12	5	5	0
Idaho Falls.....	20	19	16	3
Kootenai	18	15	13	2
North Idaho	57	37	34	3
Pocatello	64	46	44	2
Shoshone	18	10	10	0
Southwestern	124	96	84	12
Southside	60	53	51	2
Upper Snake	19	15	14	1
Totals	392	296	271	25

We increased in membership eighteen during the past year. Coincidentally, there are also eighteen new members in the Association who are either new in the state or are young men having just joined their local societies and beginning practice.

Again the Association membership has reached an all time high, and it is our hope that the coming year will show the doctors of Idaho even better organized, and the hundred physicians in the state, who are not affiliated, brought to the fold.

The figures above change slightly from day to day but do not vary greatly from year to year insofar as the total medical population is concerned.

Activities

The annual graduate study program of Idaho State Medical Association was supplied in 1939 by the Washington University of St. Louis, which included the following: Franklin E. Walton, Instructor in Clinical Surgery; David P. Barr, Internist; Alexis F. Hartman, Pediatricist; Otto H. Schwarz, Obsterics and Gynecology; Sherwood Moore, Radiologist.

The Annual Postgraduate Speaking Tour, sponsored by the Division of Public Health, was presented by University of Oregon Medical School by H. C. Stearns, Obstetrics and Gynecology; Joyle Dahl, Syphilis and Dermatology; Morris L. Bridgeman, Pediatrics.

Their schedule in Idaho included the following:

	Attendance
April 15, Idaho Falls	25
April 16, Twin Falls	24
April 17, Boise	48
April 19, Lewiston	20
April 20, Coeur d'Alene	15

The Association brought to Southern Idaho the following men from Denver, Colorado: Kenneth D. A. Allen, "Carcinoma of the Cervix"; C. F. Kemper, "Newer Procedures in Management of Ductless Gland Diseases."

Their schedule included the following:

	Attendance
July 13, Pocatello	5
July 14, Twin Falls	22
July 15, Boise	35

COUNCIL MEETING

FIRST SESSION

September 14, 1:00 p.m.

First meeting in organization of the Council. Those present were as follows: F. M. Cole, Caldwell; A. M. Newton, Pocatello; J. N. Davis, Twin Falls; W. O. Clark, Lewiston; W. O. Koelsch, Boise; C. W. Pond, Pocatello; P. M. Ellis, Wallace; A. C. Jones, Boise; F. B. Jeppesen, Boise.

A discussion of meeting dates for the 1941 meeting resulted in June 18-21, 1941, being chosen. Meeting to be held as prescribed by the House of Delegates at Sun Valley.

Medical Schools discussed relative to providing a program were University of Illinois, Harvard and Stanford. The Secretary was instructed to confer with Harvard, first, relative to the number of essayists and the expense. Subjects decided to be necessary for the coming year were Obstetrics, Gynecology, General Medicine, Surgery, Biochemistry.

Committee Appointments

Scientific Committee

C. W. Pond, Pocatello. A. M. Newton, Pocatello.
H. W. Stone, Boise. F. B. Jeppesen, Boise.
J. N. Davis, Twin Falls.

Committee on Industrial Medicine

E. N. Roberts, Pocatello. R. T. Hopkins, Orofino.
M. P. Schrank, Boise. Glenn McCaffery, Kellogg.
W. B. Handford, Caldwell.

Committee on Scientific Exhibit

A. M. Pompa, Boise. B. C. Eisenberg, Pocatello.
J. W. Marshall, Twin Falls. H. E. Guyatt, Idaho Falls.
D. M. Loehr, Moscow. P. M. Ellis, Wallace.
R. T. Scott, Nampa. E. V. Simison, Pocatello.

Board of Medical Examiners List to be Presented to the Governor

A. B. Pappenhagen, Orofino. D. H. Affleck, Twin Falls.
Parley Nelson, Rexburg. W. F. Howard, Pocatello.
H. W. Stone, Boise. H. B. Woolley, Idaho Falls.
A. M. Pompa, Boise. W. B. Handford, Caldwell.
O. F. Swindell, Boise. C. A. Robins, St. Maries.
W. L. Olsen, Pocatello. C. W. Pond, Pocatello.

Committee to Confer with the Insurance Commission and Industrial Accident Board

F. M. Cole, Caldwell. A. M. Newton, Pocatello.
M. T. Smith, Wallace. W. R. Abbott, Idaho Falls.
G. O. A. Kellogg, Nampa.

Public Relations Committee

R. S. Smith, Boise. Elizabeth Curtis, Weiser.
B. C. Budge, Boise. W. S. Douglas, Lewiston.

Public Policy and Legislation Committee

J. L. Stewart, Boise. J. N. Davis, Twin Falls.
R. T. Hopkins, Orofino. D. C. Ray, Pocatello.

Maternal Welfare Committee

H. E. Dedman, Boise. J. N. Davis, Twin Falls.
D. E. Harris, Ashton. E. S. Bovenmeyer, Pocatello.

Cancer Committee

W. F. Howard, Pocatello. A. M. Pompa, Boise.
H. L. Stowe, Twin Falls. L. J. Stauffer, Priest River.
H. B. Woolley, Idaho Falls. H. B. Rigby, Rexburg.
D. C. Ray, Pocatello. W. O. Clark, Lewiston.
J. L. Stewart, Boise.

Antituberculosis Committee

W. S. Douglas, Lewiston. J. H. Murphy, Twin Falls.
W. R. West, Idaho Falls. O. F. Swindell, Boise.
A. Barclay, Jr., Coeur d'Alene.

On motion by W. O. Clark, seconded by C. W. Pond, it was voted that A. M. Newton, be appointed to confer with the Industrial Accident Commission.

Adjourned, *sine die*.

J. N. DAVIS,
Secretary-Treasurer

WOMAN'S AUXILIARY

Members of the Woman's Auxiliary to Idaho Medical Association held their meetings at Sun Valley September 11-14. Speakers included Mrs. V. E. Holcomb of Charleston, W. Va., national president of the Woman's Auxiliary to the A. M. A. and Mrs. E. E. Fisher, past-treasurer of the same

organization. Meetings were held at Trail Creek Cabin and at the Challenger Inn.

Officers elected for the ensuing year are Mrs. Harmon Tremaine of Boise, president; Mrs. W. W. Beck of Blackfoot, president-elect; Mrs. J. W. Marshall of Twin Falls, first vice-president; Mrs. R. T. Hopkins of Orofino, second vice-president; Mrs. Bruce Budge of Boise, recording secretary; Mrs. H. E. Dedman of Boise, treasurer; Mrs. R. R. Jones of Boise, corresponding secretary.

Committee heads are: Bulletin, Mrs. R. T. Hopkins, Orofino; Exhibits, Mrs. W. C. Clark, Lewiston; Finance, Mrs. C. R. Scott, Nampa; History and Archives, Mrs. J. N. Davis, Twin Falls; Hygeia, Mrs. P. M. Ellis, Wallace; Legislative, Mrs. J. H. Einhouse, Moscow; Organizations, Mrs. J. W. Marshall, Twin Falls; Program, Mrs. I. A. Dix, Boise; Publicity, Mrs. L. F. Lesser, Mountain Home; Public Relations, Mrs. W. W. Beck, Jr., Blackfoot; Social, Mrs. R. D. Simonton, Boise.

Social meetings for the convention, in charge of Mrs. F. B. Jeppesen of Boise, included a luncheon and a barbecue dinner at Trail Creek cabin and a trout luncheon at Round House on the Old Baldy Ski lift.

Ada County Woman's Auxiliary held its first meeting of the year at the home of Mrs. A. B. Boeck, Tuesday, October 15. Reports of the state meeting by Mrs. Harmon Tremaine and a discussion of aid to the crippled children's bureau, Hygeia, and school lunches comprised the business for the evening. Dr. Helen Craig, adviser for the group, spoke briefly.

Officers for the year are Mrs. A. B. Boeck, president; Mrs. L. V. Privet, vice-president; Mrs. R. D. Simonton, treasurer; Mrs. Everett Jones, secretary.

TRIBUTE TO DR. DAVIS

J. N. Davis of Twin Falls, Idaho, has given sixteen years of continuous official service as an elected officer to Idaho State Medical Association. How frequently can we find such a record? His name has been associated with every important move the association has undertaken to improve the welfare of its members and to strengthen organized medicine in Idaho. Some of the innovations came at his suggestion. A brief account of his activity is fitting to commemorate these sixteen years.

Dr. Davis came to Idaho in March, 1912, and opened practice at Elk City. In December, 1913, he located in Kimberly, where he practiced until September, 1936. He now practices in Twin Falls. He became a member of Idaho State Medical Association in 1913. He has attended every state meeting of the association since that year.

In 1922 he was elected secretary-treasurer of the association and served continuously in this office until 1931. He was then made president-elect of the association and served as president in 1932. He was a councilor from 1935 to 1938. At the meeting of the association in Sun Valley in 1938 he was again elected secretary-treasurer and served until this year, when it was his desire that he be relieved of this responsibility. During the twenty-seven years of membership in the association he has held various appointive offices.

One of his most important contributions was the suggestion that graduate courses be given by the State Association. At a meeting of the House of Delegates in 1933 he submitted a resolution calling for the State Association to sponsor graduate medical courses to be held in the three districts of the state. His resolution failed to carry but a substitute resolution was adopted, directing the Council to

investigate the feasibility of postgraduate courses. At the state meeting in 1934 the Council reported favorably on the plan. In 1934, when C. R. Scott was president-elect, he proposed that graduate courses be given at the annual state meetings. The latter policy was adopted during the presi-

association. After attending twenty-seven consecutive meetings the habit is too strongly engulged to allow him to neglect attendance in the future. Finally, as an indication of the continuation of service to Idaho State Medical Association and American Medical Association, he will serve as state chairman for the Committee on Medical Preparedness of the American Medical Association.



LIFE MEMBERSHIP

Presented by

IDAHO STATE MEDICAL ASSOCIATION
in convention assembled
to

DR. J. N. DAVIS

*As a token of appreciation for many years of
faithful and efficient service*

September 12, 1940.

dency of C. R. Scott in 1935 and Northwestern University provided the first postgraduate course at the state meeting held in Boise. Probably to J. N. Davis, C. R. Scott and to Idaho can go the honor of instituting postgraduate courses sponsored by a state medical association and the adoption of similar programs in other states.

During these sixteen years as an elected officer he has given unselfishly of his time, even though it infringed on his own practice. He has always been active in his local medical society. Throughout the years he has helped materially in legislative matters pertaining to medicine and public health in the state of Idaho. His advice and counsel have been given willingly and always respected.

It was fitting that in commemoration of his years of service he was presented with a life membership in Idaho State Medical Association at the 1940 meeting held in Sun Valley. An engraved life membership card was presented.

Dr. Davis' work in the state association has not ended. He will continue to attend the annual meetings and participate in the programs. He now holds appointive offices in the

MEDICAL NOTES

H. J. TIKKER is now able to resume active practice in Boise after a prolonged serious illness.

LOCATIONS. M. J. Kerns has moved to Dubois for practice. He formerly practiced at Malad and last year took a postgraduate course in Michigan.

Richard Forney is now associated with his father, S. W. Forney of Boise.

Roy L. Peterson and T. Holstein are associated with A. C. Jones in eye, ear, nose and throat practice in Boise.

August Galloway, recently on the staff of the Division of Public Health is now associated with A. S. Thurston at Council.

STAFF MEETINGS. Regular monthly staff meetings of St. Alphonsus and St. Luke's Hospitals of Boise have resumed after the summer vacation. The staff of St. Alphonsus meets regularly on the first Tuesday and the staff of St. Luke's on the second Tuesday of each month.

OBITUARY

DR. WILLIAM H. MARSHALL of Weiser died in Boise October 18. He was born in Detroit, Mich., in 1874. As a youth he moved to Canada, where he later taught school for several years. He graduated in 1899 from Medical Faculty of Trinity University of Toronto. He practiced first in Michigan, and in 1907 located in Hagerman, Ida., moving to Midvale in 1914 and locating at Weiser in 1918, retiring from practice four years ago on account of ill health.

SOCIETY MEETINGS

SOUTHWESTERN IDAHO DISTRICT MEDICAL SOCIETY

A meeting of the Southwestern Idaho District Medical Society was held Oct. 18 at Hotel Boise. Dinner was followed by a paper on "Thyrogenic Disturbances" by N. F. Hicken of Salt Lake City. New officers were elected: President, Leo E. Jewell of Meridian; Vice-president, Warren B. Ross of Nampa; Secretary-treasurer, William B. Handford of Caldwell; members of the Council, O. F. Swindell and Albert Boeck of Boise.

NORTH IDAHO DISTRICT MEDICAL SOCIETY

Regular meeting of North Idaho District Medical Society was held at the Country Club at Lewiston, Sept. 26. It was addressed by Drs. Addington and Anderson of Spokane. The Woman's Auxiliary met at the same time and after dinner joined the society for the scientific portion of the meeting.

OREGON STATE MEDICAL SOCIETY



**SIXTY-SEVENTH ANNUAL
MEETING, PORTLAND,
SEPTEMBER, 1941**

ORGANIZATION ACTIVITIES

MEETING OF COUNCIL

A meeting of the Council of the Oregon State Medical Society was held at Mallory Hotel, Portland, at 6:30 p.m., Oct. 5.

President Martzloff introduced the following newly elected members of the Council: John D. Rankin of Coquille, Third Vice-President; Henry Garnjobst, Corvallis, Councilor for the Third District; C. J. Bartlett of Baker, Councilor for the Seventh District.

Morris L. Bridgeman, Secretary, presented a report of receipts and expenditures for the Eugene Session. Expenditures for the meeting totaled \$1,744.66. Receipts from registration fees, technical exhibit space, and program advertising totaled \$1,124,000. The net cost of the session to the General Fund of the Society was, therefore, \$620.66.

Executive Committee

J. E. Buckley of Portland, G. H. Strickland of Oregon City, and L. S. Kent of Eugene were elected to the Executive Committee. Under an amendment to the by-laws at the Eugene Session, the Executive Committee has been reorganized and enlarged. In addition to the three elected members, the following officers are members of the Committee: President Karl H. Martzloff of Portland, Chairman; First Vice-President George E. Henton of Portland; Retiring President Charles E. Hunt of Eugene; Secretary Morris L. Bridgeman of Portland; and President-Elect W. W. Baum of Salem.

Medical Preparedness Committee

Charles E. Hunt of Eugene presented a report concerning the recent meeting of the Committee on Medical Preparedness of the American Medical Association which he attended as Chairman of the Society's Committee. Dr. Hunt pointed out the importance of obtaining a 100 per cent return of schedules that have been sent to physicians to give the Committee on Medical Preparedness of the American Medical Association information that will enable it to assist the government in utilizing the physicians of the country to the best advantage in connection with the preparedness program. It was concluded that a postcard, with return, be sent to every physician in the state, asking each to indicate whether he has returned his schedule, and if not, whether he desires another blank, or whether he objects to sending in a completed schedule.

It was further concluded that each component society be asked to appoint a Committee on Medical Preparedness to cooperate with the Committee of the State Society.

It was reported that Governor Charles A. Sprague had requested the Society to submit recommendations for examining physicians and medical advisory boards to be appointed in connection with the physical examinations of registrants under the Selective Service Act, and that the component societies have been requested to submit their suggestions to the State Society.

London Lloyds Underwriters

There was discussion concerning contracts for the medical care of occupational injuries between London Lloyds Underwriters and approved medical service bureaus. The question was raised as to the legal status of Lloyds Underwriters in writing insurance protecting employers against claims and suits arising from the occupational injuries of employees. The question was also raised as to the desirability of approved medical service bureaus entering into contracts to provide medical care under such circumstances. The matter was referred to the Executive Committee for study and recommendations.

Dues Suspended

Action was taken to provide that whenever a member enters active service with the armed forces of the United States, dues payable for the period of such service shall be suspended.

Medical Indemnity Insurance

The report of the Committee on the Study of Plans of Medical Indemnity Insurance was presented. The report contained the outline of a plan to make such insurance available to the wives of employees who are now subscribers of approved medical service bureaus. Following an extended discussion, the matter was referred to the Executive Committee, with the understanding that, if the Committee approves a plan of Medical Indemnity Insurance for this group, the Bureau of Medical Economics is to draft a specimen contract to be mailed to each Council member well in advance of the November meeting, at which time the subject is to be considered again.

STANDING COMMITTEES

Public Policy

Richard B. Adams, Portland, *Chairman* (1942)
F. K. Power, Salem (1941)
E. D. Lamb, Klamath Falls (1943)

State Industrial Affairs

Thompson Coberth, The Dalles, *Chairman* (1942)
W. K. Livingston, Portland (1942)
James C. Hayes, Medford (1941)
G. I. Hurley, Eugene (1941)
William T. Johnson, Corvallis (1943)
H. L. Blosser, Portland (1943)

Malpractice

Otis F. Akin, Portland, *Chairman* (1942)
W. F. Hollenbeck, Portland (1941)
Sherman E. Rees, Portland (1943)

Public Relations

Charles E. Hunt, Eugene, *Chairman* (1943)
Blair Holcomb, Portland (1942)
Charles E. Sears, Portland (1941)

Postgraduate Education

Morris L. Bridgeman, Portland, *Chairman* (1942)
Homer P. Rush, Portland (1943)
H. J. Clements, Salem (1941)

Maternal Welfare

L. S. Kent, Eugene, *Chairman* (1941)
Goodrich C. Schaufler, Portland (1942)
Albert W. Holman, Portland (1943)

Charitable Medical Care

S. G. Henricke, Portland, *Chairman* (1942)
Frank R. Mount, Portland, *Vice-Chairman* (1943)
Charles P. Wilson, Portland (1941)
R. Gordon MacDonald, St. Helens (1943)
Ronald C. Romig, Portland (1941)
Harry J. Alvis, McMinnville (1943)

Child Health

L. Howard Smith, Portland, *Chairman* (1942)
C. O. Wainscott, Pendleton (1941)
Jerald S. Backstrand, Salem (1943)

Cancer Study

Charles E. Sears, Portland, *Chairman* (1942)
Thomas D. Robertson, Portland (1941)
John P. Cleland, Oregon City (1943)

Venerical Diseases

Merl L. Margason, Portland, *Chairman* (1942)
Howard C. Stearns, Portland (1941)
Charles D. Donahue, Eugene (1943)

Tuberculosis

Marr Bisaillon, Portland, *Chairman* (1942)
C. E. Mason, Beaverton (1941)
Morton J. Goodman, Portland (1943)

Advisory to Woman's Auxiliary

Roy A. Payne, Portland, *Chairman* (1942)
W. J. Weese, Ontario (1941)
Charles E. Sears, Portland (1943)

Conservation of Vision

E. Merle Taylor, Portland, *Chairman* (1942)
DeWalt Payne, The Dalles (1941)
Bernard Barkwill, Marshfield (1943)

Conservation of Hearing

Wilson Johnston, Portland, *Chairman* (1942)
Ralph W. Stearns, Portland (1941)
F. L. Ralston, La Grande (1943)

Veterans Affairs

Archie C. Van Cleve, Portland, *Chairman* (1942)
E. B. Stewart, Roseburg (1941)
H. R. Kauffman, Toledo (1943)

Revision of Constitution and By-Laws

John R. Montague, Portland, *Chairman* (1942)
E. H. McLean, Oregon City (1941)
Allen M. Boyden, Astoria (1943)

SPECIAL COMMITTEES*Nursing Service and Education*

C. H. Manlove, Portland, *Chairman*
F. K. Power, Salem

Advisory Committee on Laboratory Standards to the State Board of Health

C. H. Manlove, Portland, *Chairman*
Frank R. Menne, Portland
Roy A. Payne, Portland
Emma M. Howe, Portland

Honorary Membership

D. C. Burkes, Portland, *Chairman*
W. G. Homan, Burns
P. J. Bartle, Eugene
J. C. Booth, Lebanon
A. W. Moore, Portland

Necrology

A. C. Kinney, Seaview, Washington, *Chairman*
Andrew C. Smith, Portland
George E. Houck, Roseburg

SOCIETY MEETINGS**EASTERN OREGON DISTRICT MEDICAL SOCIETY**

Eastern Oregon District Medical Society met in Ontario September 28. Among those who presented papers were Jas. Stewart, Boise; Karl Martzloff, Howard Stearns, John Fitzgibbon and Homer Rush, all of Portland. R. R. Belnap is the society President and W. J. Weese is secretary.

MARION-POLK-YAMHILL COUNTY MEDICAL SOCIETY

Marion-Polk-Yamhill Medical Society held a postgraduate assembly October 10-11 at Salem. The speakers were selected entirely from members of the University of California gastroenterological staff and included Fred Kruse, Leon Goldman, Felix Cunha and Montague Woolf, all of San Francisco. The gratifying attendance will encourage another such program next year.

MULTNOMAH COUNTY MEDICAL SOCIETY

The first regular society meeting of the new season was held October 2. Thomas S. Saunders discussed the promising new five day treatment of early syphilis. Wendell H. Hutchens discussed premarital examinations and the responsibility of the physician involved. He pointed out the large number of questionable cases confronting the physician and urged that such cases be referred to the Board of Eugenics for review.

The second meeting of the society was held October 16 at the Veterans Hospital. The meeting was very interesting and well attended. G. E. Pfeiffer presented a paper on "Alloy Wire Tension Sutures as Utilized in Abdominal Surgery" which was supplemented by lantern slides and case presentations. A clinical pathologic conference on "Tumors of the Kidney" was conducted by Frank Menne, pathologist.

UMATILLA COUNTY MEDICAL SOCIETY

Umatilla County Medical Society held its first meeting of the season October 8 at St. Anthony's Hospital. Fourteen doctors were present. The activity of the National Physician's Committee was discussed. A report on the state medical meeting was offered by J. P. Brennan. The kodachrome film "Allergy," obtained through courtesy of Lederle Laboratories, was shown.

YAMHILL COUNTY MEDICAL SOCIETY

Yamhill County Medical Society held a meeting October 1 at McMinnville. Leon F. Ray, dermatologist of Portland, was the principal speaker.

UNIVERSITY OF OREGON MEDICAL SCHOOL

The fall term of the school year 1940-41 opened at the University of Oregon Medical School with registration October 1, 268 students being enrolled in the course in Medicine and 168 in Nursing Education, making a total of 436. Approximately 70 students were admitted to the first year class out of a total of approximately 400 applicants. Basis of admission to the first year class includes the student's scholastic record during premedical course, fitness for the profession and residence, those admitted having previously been interviewed in person by members of the faculty committee on admissions. Applications for admission to the first year class for the fall of 1941 are to be filed by March.

Col. J. Guy Strom, Commanding Officer of General Hospital No. 46, which is affiliated with the University of Oregon Medical School, has reported that the officer personnel is being selected and at present is about 90 per cent complete. Chiefs of the services in the reserve hospital assisting Dr. Strohm are as follows:

Medical, Lt. Col. Frank R. Mount.

Surgical, Lt. Col. Eugene W. Rockey.

Laboratory Service, 1st Lt. Vinton Sneed.

Chiefs of Radiological and Dental services have not been selected to date. The 46th General Hospital commission is under the Arm and Service assignment group and is therefore under the direct supervision of the Surgeon General of the United States Army. Enlisted men will be procured, if and when mobilization takes place, and the nursing personnel will be selected through American Red Cross head-

quarters. Total personnel of the hospital will be: 72 officers, 120 nurses, and 500 enlisted men; normal capacity: 1,000 beds, with expansion to 2,000 or more. No official notification has been received as to where General Hospital 46 will be located, if mobilization does occur. At the present time training classes for the Officer personnel are being conducted regularly. Officer personnel is limited to those who are members of the faculty of the University of Oregon Medical School.

Staff change in the reserve officers training corps at the University of Oregon Medical School was consummated recently, when Col. Ray W. Bryan replaced Lt. Col. Henry L. Krafft. Effective September 28, Lt. Col. Krafft was assigned to the medical department of the Presidio of Monterey.

Dr. Ludwig Hektoen was a recent visitor to the campus of the medical school, when he gave a series of lectures before the Portland Academy of Medicine in the school's auditorium, upon the subject, "Trends of Fundamental Cancer Research" and "Control of Cancer."

STATE BOARD OF HEALTH

Nutritionist Added to Staff

On October 1, Mrs. Laura P. Wells joined the staff of the Oregon State Board of Health, Division of Maternal and Child Health, as Consultant in Nutrition. The appointment was made as a result of requests for a consultation service in nutrition from many health departments, including that of the City of Portland.

Mrs. Wells received her Master's degree in nutrition from Oregon State College. She has had experience as a home demonstration agent in the University of Wyoming Extension Department, and as District Home Management Supervisor with the Farm Security Administration. Her services will include:

1. Consultation with health departments and public health nurses in nutritional problems.
2. Assistance in maternal, infant, preschool, and school conferences in regard to nutrition.
3. Demonstration visits on methods of improving nutrition in homes.
4. Instituting programs for improvement of nutrition of mothers and children of the state.

Staff Members Travel

During the last month Dr. William Levin, Director of the State Hygienic Laboratory, and Mr. Carl E. Green, State Sanitary Engineer and Secretary of the Oregon State Sanitary Authority, attended a group of conferences and meetings held in the East.

Dr. Levin attended the Conference of State Laboratory Directors which preceded the American Public Health Association meeting in Detroit and then attended the Association meeting. Following the Association meeting in Detroit he spent a day each in the laboratories of Dr. R. L. Kahn and Benj. Kline.

While in Detroit, Mr. Green and a small group of sanitary engineers were conducted on a trip through Detroit's sewage treatment plant and the city's two water filtration plants.

Following the annual meetings of the Federation of Sewage Works Associations and the American Public Health Association held in Detroit, Mr. Green spent several days

in Cincinnati, reviewing the work of the Public Health Service in connection with its water pollution studies in the Ohio River Basin. Sometime in the near future the State Sanitary Authority plans to launch an extensive stream pollution control campaign in an effort to lessen pollution in the waters in the State of Oregon.

Upon leaving Cincinnati, the state sanitary engineer visited Madison, Indiana, in order to see one of their mobile laboratory units in operation at that point. This proved particularly interesting, in view of the fact that the State of Oregon has a well-equipped mobile laboratory available for use in making milk, water and shellfish surveys throughout the state.

During Mr. Green's absence from the office, Curtiss M. Everts, Jr. Principal Assistant Sanitary Engineer, was in charge of the Division of Sanitary Engineering of the Oregon State Board of Health.

Water Works and Sewage Works Operators' Short School

The third annual water works and sewage treatment plant operators' short school, sponsored by the Pacific N. W. Section, American Water Works Association, the State Board of Health and the Oregon State College will be held at the Oregon State College in Corvallis, November 7-9. Water works and sewage treatment plant operators are urged to attend the short school and take advantage of the excellent course of study which has been prepared.

MEDICAL NOTES

The new Blue Mountain General Hospital at Prairie City was officially opened September 14. Five hundred people attended the ceremonies. Speakers included Dr. Jerald and Martha Van der Vlugt, physician in charge of the hospital; V. C. Belknap of Nampa, Idaho; Hugh B. Fate of John Day; and O. M. Nesbitt of Portland, who was the principal speaker. The capacity of the hospital is about 200 beds all of which were reported occupied by the end of September.

H. L. Blosser of Portland has been appointed to the State Board of Medical Examiners, succeeding Joseph F. Wood of Portland. He will serve until February 28, 1943.

Official dedication and formal opening of the new Klamath County Infirmary and hospital took place October 13.

Among the doctors called to military duty are E. G. Everett of Ashland who will be stationed at Fort Ord, California; W. I. Wilbur of Carlton and D. R. Rick of La Grande will be stationed at Fort Lewis.

Louis J. Feves of Pendleton was slightly injured October 17, when his car crashed with a Union Pacific freight train.

WOMAN'S AUXILIARY

AUXILIARY ACTIVITIES

The annual Health Education Day program of the Auxiliary to Multnomah County Medical Society is to be held October 28, in the Medical Dental Building Auditorium (Portland) at 2 o'clock. The topic for discussion is "The Program of the Oregon State Medical Society to Provide Medical Care to the Low Wage Group." Charles Edwin Sears, Councilor for the Oregon State Medical Society, is to be the speaker.

Members of all outstanding women's organizations in the city have been issued a general invitation by letter to their respective presidents. This was followed by a personal printed invitation to individual members later. The Auxiliary's own members have been asked to be responsible for bringing one interested guest. The speaker will answer questions after his talk. Tea will follow.

Mrs. V. E. Holcomb, the Auxiliary's National President, was a Portland visitor, September 9, following the state meeting in Eugene. She attended the morning Board meeting of the Auxiliary and was guest of honor at a luncheon held later at the Town Club. Twenty-six members attended.

Multnomah County Auxiliary began its fall meetings with a luncheon September 23 at the Portland Golf Club. This is a purely social occasion with cards, golf and visiting following luncheon, during which only brief announcements

were made. The annual luncheon definitely marks the date upon which the Auxiliary breaks into full swing upon its fall activities.

Six volunteers from the Multnomah County Auxiliary assisted with the annual open house and tea, October 5 at the Louise Home for Girls, a charitable organization. A number of members assisted with the silver tea held at Doernbecher Hospital for Crippled Children September 21, donating and selling cakes. Thirty dollars was raised for the hospital fund.

Coos and Curry County Auxiliary report fourteen paid up members. At their first meeting in September they worked on garments for the County Poor Farm and laid plans for a program to be put on in October at the Farm.

MRS. EVELYN WALL MCARTHUR,
Chairman, Press and Publicity

WASHINGTON STATE MEDICAL ASSOCIATION



FIFTY-SECOND ANNUAL MEETING, SEATTLE, AUGUST 24 - 26, 1941

BOARD OF TRUSTEES MEETING

A meeting of the Board of Trustees of Washington State Medical Association was held at Olympic Hotel, Seattle, October 13. Much routine business was conducted. Matters of special importance were discussed pertaining to affairs of the Association. Following are reports of proceedings which are of particular interest:

Dues and Military Service

The central office of the State Association has announced that a special letter will be sent to all county medical societies, notifying them that physicians who have been called into active military or naval service during the national emergency will have their dues suspended during such active service.

The order to suspend certain dues by the Board was made in the following motion: "That the dues of all members who, during the present national emergency enter military or naval service, be suspended during active service, and the county societies be notified of the action."

So that county societies may have a clear interpretation of the motion, its definition means that members called into active service will be carried on the active or honorary rolls of the State Association but will not pay dues during their period of military service. They will retain all privileges.

Issuance of New Charters

As result of the adoption of the new Constitution and By-laws the State Association, by order of the Board of Trustees, will issue new charters to the twenty-four component societies throughout the state. The new charters, printed on pigskin and embossed with the seal of the State Association, are now in the hands of the printer and will be issued within a few days. The new charter for component societies was created by the Bureau of Legal Medicine and Legislation in cooperation with the By-laws Committee of the State Association and is said to be one of the most up-to-date charters for component medical societies in the country.

Reference to the issuance and provisions of charters is cited in the Constitution under Article IV, Sections 2 and 3 and in the By-laws under Chapter I, Sections 1, 2 and 3.

Date of Annual Meeting

The 1941 annual meeting of Washington State Medical Association will be held in Seattle August 25-27, Monday, Tuesday and Wednesday. The State Association, in cooperation with King County Medical Society, hope to make the next annual meeting an outstanding one with many entertainments and many more scientific and technical exhibits.

Committee Appointments

Appointment and election of new committees was announced by president Homer D. Dudley. According to the new Constitution and By-laws, adopted by the House of Delegates in session in Tacoma, August 28, the Board of Trustees was empowered to appoint or elect the standing committees, and the president, through resolution, was authorized to appoint certain committees.

The Board of Trustees elected or appointed the following Standing Committees:

Committee on Scientific Work. R. E. Mosiman, Seattle, Chairman (three year term); S. F. Herrman, Tacoma (two year term); Howard Kellogg, Seattle (one year term).

Committee on Public Laws. W. B. Penney, Tacoma, Chairman (three year term); H. E. Rhodehamel, Spokane (two year term); W. A. Glasgow, Seattle (one year term).

Committee on Public Relations (To serve during pleasure of Board of Trustees). Frank Douglass, Seattle, Chairman; Wilmot D. Read, Tacoma; E. A. Nixon, Seattle; J. H. O'Shea, Spokane.

Committee on Industrial Insurance and Health (To serve during the pleasure of the Board of Trustees). H. T. Buckner, Seattle; H. E. Nichols, Seattle; I. O. McLemore, Seattle; J. H. Mathews, Seattle; R. C. Schaeffer, Tacoma. Chairman of this committee to be elected by members.

Committee on Medical Economics. N. L. Thompson, Everett, Chairman (three year term), O. M. Rott, Spokane (two year term); C. B. Cone, Vancouver (one year term).

Appointment of Committees by the President follows:

By-Laws Committee. C. W. Sharples, Seattle, Chairman; A. J. Bowles, Seattle; V. W. Spickard, Seattle; N. L. Thompson, Everett.

Maternal and Child Welfare Committee. H. H. Skinner,

Yakima, Chairman; R. N. Hamblen, Spokane; R. S. Mitchell, Wenatchee; H. L. Moon, Seattle; G. G. Thompson, Seattle; H. E. Coe, Seattle; D. M. Dayton, Tacoma; C. L. Lyon, Spokane; V. W. Spickard, Seattle.

P. C. Kyle, Tacoma, was appointed to the committee but, because of a year's duty with the National Guard, was forced to refuse. Another physician will be appointed in Dr. Kyle's place.

Postgraduate Medical Education and Hospitals Committee. A. B. Hepler, Seattle, Chairman; D. C. Hall, Seattle; D. G. Evans, Seattle.

Resettlement Committee. W. D. Read, Tacoma, Chairman; J. E. Bittner, Jr., Yakima; J. R. Morrison, Bellingham.

Social Hygiene Committee. W. R. Jones, Seattle, Chairman; Clyde Magill, Tacoma; H. P. Lee, Spokane; Bryan Newsom, Seattle.

State Planning Council Committee. H. J. Whitacre, Tacoma, Chairman; C. W. Knudson, Seattle; H. E. Rhodhamel, Spokane.

Study of Medical Care Committee. A. P. Duryee, Everett, Chairman; W. B. McCreery, Tacoma; A. H. Peacock, Seattle.

Tuberculosis Committee. J. E. Nelson, Seattle, Chairman; L. P. Anderson, Elma; S. L. Cox, Seattle; F. B. Exner, Seattle; R. E. McPhail, Lakeview; F. S. Miller, Spokane; R. M. Woodford, Everett; H. L. Hull, Yakima; B. F. Francis, Seattle.

Neoplastic Committee. C. B. Ward, Seattle, Chairman; R. H. Fletcher, Seattle; E. I. Cilley, Bellingham; D. V. Trueblood, Seattle; G. W. Cornett, Yakima; S. M. Maclean, Tacoma; J. T. Rook, Walla Walla; M. T. Harris, Spokane; C. R. Jensen, Seattle.

Appointment of members to the Committee on Public Health and Sanitation will be made known at a later date by the president.

MEDICAL NOTES

TACOMA HOSPITAL APPOINTS SUPERINTENDENT. Mr. Walter A. Heath of Tacoma, formerly cashier of the National Bank of Washington, was appointed superintendent of the Tacoma General Hospital to succeed Mr. C. J. Cummings, taking office October 1. He has had long experience as a banker, having started as a messenger in a Seattle bank thirty years ago. In 1928 he was made vice-president of Pacific National Bank in Seattle and three years later was president of the Auburn National Bank. In 1938 he went to Tacoma to become cashier of the National Bank of Washington.

HOSPITAL ADDS WINGS. The concrete foundation has been placed for a forty-five room addition to Olympia Hospital in Bremerton. Work on the main part of the wing will not be started until next spring.

MONROE HOSPITAL APPROVED. Monroe has received approval of its request for W P A funds with which to construct a community hospital. It is expected that about \$16,000 will be supplied by the city and \$17,000 by the WPA.

SITE CHOSEN FOR COWLITZ HOSPITAL. A site in Longview has been chosen for the new \$60,000 Cowlitz County Hospital. A committee from Cowlitz County Medical Society made final recommendation.

HOSPITAL RECEIVES BEQUEST. The estate of Mr. Hugo Bauman is to go to Sedro-Woolley Memorial Hospital. The original beneficiary of his will died several months ago and the hospital was named as alternate beneficiary.

LOCATIONS. Orin P. Thorson of Northfield, Minn., has moved to Bremerton, where he will be associated with the Benson Clinic. Marion LeCocq, formerly of Lynden, moved to Portland, where he will specialize in dermatology. John

F. Beatty has opened an office in Granite Falls but will maintain his office in Everett also. R. E. Morton has moved to Pullman to take care of the practice of L. G. Kimzey who is ill. R. A. Foster of Cle Elum has located for practice in Yakima. F. G. LeFor, formerly of Goldendale, after taking postgraduate work in the East, has opened an office at Yakima. Philip Johnson has resigned as assistant county physician, and is in practice with his brother, Victor E. Johnson of Yakima. C. G. Champoux of Selah has been appointed assistant county physician in place of Dr. Johnson.

WEDDINGS. Milburn H. Querna of Spokane and Miss Patty Paxton of Springdale were married in Lewiston, Idaho, October 3.

William A. McMahon of Seattle and Barbara Brygger, also of Seattle, were married October 5.

J. C. Lindsay and Miss Eileen Chittenden of Spokane were married at Coeur d'Alene September 25.

OBITUARIES

DR. ALFRED J. HELTON of Yakima died September 25, three months after a cerebral hemorrhage, at 53 years of age. He was born May 22, 1887, in Atwood, Ill. He graduated from University of Ill. in 1899 and received his M. D. degree from Rush Medical College in 1902. He came to Yakima in 1905 and practiced there constantly until the time of his death. He was Yakima's first health officer and organized the pioneer town's health service. During the last war he served as surgeon at base Hospital 50 in France for almost the entire time the U. S. was engaged in the war. After his return to Yakima, he became one of the founders of the Yakima Medical and Surgical Clinic.

DR. ANDREW ALDRIDGE MATTHEWS of Spokane died Sept. 23, aged 62. He received his medical education at the University of Maryland School of Medicine and College of Physicians and Surgeons at Baltimore, graduating in 1900. He came to Spokane in 1904 and practiced there until the time of his death. He was one of the most prominent and best beloved physicians of the city, being active in medical and civic affairs. He was responsible largely for the development and growth of St. Luke's Hospital. He was active in local, state and national medical organizations. His aim was to develop by constant study and application to his work which he accomplished with great success. His death is a distinct loss to the city.

DR. SYDNEY SOLOMAN OPPENHEIMER of Spokane died Sept. 20 following a cerebral hemorrhage about one year ago. He was 67 years of age. He received his medical education at McGill University Faculty of Medicine in Montreal, graduating in 1898. He came to Spokane in 1908 and practiced there until his illness of last year.

DR. ERNEST THEODOR HEIN of Palouse died October 3, age 84. He was born in Frankfort-on-the-Rhine, Germany, Sept. 23, 1856. He came to this country as a young man and received his medical education at Baltimore Medical College, graduating in 1888.

DR. EDWARD JOHN LAWRENCE of Spokane died September 13th, aged 56. His death was due to a heart attack. He received his medical education at the University of Minnesota Medical School in Minneapolis, graduating in 1908 and he had practiced in Washington since 1910.

SOCIETY MEETINGS

King County Medical Society held a regular meeting October 7 in the auditorium of Medical and Dental Building, Seattle, at 8:15 p.m., president M. Shelby Jared presiding.

F. J. Buschke and A. B. Campbell were elected to membership. Applications were read from M. J. Buckley, J. A. Clark, J. D. Collins, L. A. Dewey and R. A. Maves.

V. W. Spickard, secretary of Washington State Medical Association, gave a report of the annual meeting held in Tacoma. R. L. Zech discussed medical preparedness, giving available information.

Miss Elvena Miller, supervisor of speech instruction at the School for the Deaf, discussed "Education of the Acoustically Handicapped." She described methods of teaching with explanation of provision in the schools. Example was given of lip reading on the part of partially deaf and profoundly deaf children.

Willard F. Goff presented a paper on "Individualizing Hearing Aids." Types of deafness were described and different sorts of hearing aids were explained and illustrated. Julius A. Weber spoke on "Conditions Usually Unrecognized Affecting Hearing." Causes for such conditions were described, with methods for diagnosing each. Methods of diagnosis were presented in considerable detail.

PIERCE COUNTY MEDICAL SOCIETY

Regular meeting of the Pierce County Medical Society was held in the Medical Arts Auditorium in Tacoma October 8. The program was opened by a paper "Focal Infection and its Relation to Arthritis" by K. K. Sherwood of Seattle. It was brought out that the type of arthritis must be determined before a decision is made as to the removal of foci of infection. Various types were discussed. S. N. Berens of Seattle presented a paper on "Diagnosis and Treatment of Ruptured Intervertebral Disc." The paper was illustrated with lantern slides and a motion picture of the operative treatment. H. J. Verhalen announced the community chest drive and stated that the contribution from doctors was 35 per cent greater in 1939 than in 1938.

SPOKANE COUNTY MEDICAL SOCIETY

The regular monthly meeting of Spokane County Medical Society was held in the Paulsen Medical-Dental Building auditorium on October 10. The following papers were presented: "Mechanics of Respiratory Function, Clinical Applications," by M. H. Querna; "Headache, Mechanization Treatment," by J. W. Lynch.

ADDRESSED ROTARY. James Cromwell, superintendent of the State Hospital at Blackfoot, discussed mental disease at a Rotary Club Luncheon in Pocatello, Sept. 19.

HOSPITAL WING COMPLETED. Thirty-five additional beds have been added to St. Anthony's Hospital at Pocatello by a new wing which was completed in October. Rooms now used as nurses' quarters will be rebuilt as two large wards.

FURNISHES HOSPITAL ROOM. Mrs. W. E. Borah, widow of Idaho's late great Senator, has provided funds for equipment of a room in Gritman Hospital at Moscow. This was done in memory of her parents, Mr. and Mrs. W. J. McConnell. Her father was the first governor of the State of Idaho.

WALLA WALLA VALLEY MEDICAL SOCIETY

Walla Walla Valley Medical Society held its regular meeting at the Grand Hotel in Walla Walla, October 10. Principal speaker was Homer D. Dudley of Seattle who discussed "Infections of the Hand." J. W. May of the Hanoi Medical School, Hanoi, Indo China, discussed that institution.

Mr. W. T. Laube, attorney for Washington State Medical Association and Mr. Arthur Anderson, executive secretary, were also present.

YAKIMA COUNTY MEDICAL SOCIETY

Yakima County Medical Society held a meeting October 14, about forty-five members being present. Alex Campbell of Seattle discussed "Contact Dermatitis." F. J. Jarvis of Seattle spoke on "Carcinoma of the Rectum."

WOMAN'S AUXILIARY

LEGISLATION

The legislative program for this year is a continuation of the work so ably started last year. The objectives are: (1) informal auxiliary membership, (2) intelligent cooperation and consultation with your medical society, (3) enlightened public.

In order that you may be informed, study pending Federal and State legislation with special emphasis on the Wagner-George Bill, the case of the U. S. A. versus A. M. A. and medical preparedness program. Read carefully the articles in the *A. M. A. Journal* covering these subjects, also *The Bulletin of the Woman's Auxiliary*. The A. M. A. has requested that every doctor's wife memorize the eight point platform.

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of the federal government, under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need, for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

Most of the county auxiliaries are calling their members together and are busy with legislative meetings and membership teas as a start for the coming year. Mrs. G. E. Hoxey, our new State President, is busily going about the state visiting the different county auxiliaries.

MRS. RICHARD E. AHLQUIST,
Chairman

BOOK REVIEWS

VITAMIN THERAPY IN GENERAL PRACTICE. By Edgar S. Gordon, M.D., M.A., Associate in Medicine and Instructor in Physiological Chemistry, University of Wisconsin, and Elmer L. Sevringhaus, M.D., F.A.C.P., Professor of Medicine, University of Wisconsin, etc. 258 pp, \$2.75. The Year Book Publishers, Inc., Chicago, 1940.

There is constantly an increase in the interest and application of vitamins. At present there are ten in pure form, and it is believed that soon they may be twenty in number. There has been much confusion regarding the use of these new remedies. While emphasis is placed on the desirability of administering them through foods, synthetic vitamins are claimed to possess distinct advantages in certain conditions. After answering what is a vitamin, a chapter is devoted to each of the ten with discussions as to their origin, absorption in the body economy and the objectives for their application. In addition to discussion of vitamins, there are chapters on minerals, protein, carbohydrates, fat, as well as dental problems and economics of nutrition. One can acquire much information from this volume.

THE VIRUS. Life's Enemy. By Kenneth M. Smith, F.R.S. 176 pp., \$2.00 The University Press, Cambridge, The Macmillan Company, New York, 1940.

The existence and role of viruses in relation to diseases occupies much attention at the present time. Although diseases caused by them have been known for centuries, the first demonstration of the existence of a virus disease was made in 1892 by a Russian botanist investigating a disease known as tobacco mosaic. In explanation of the virus two theories have been proposed, one that they are microorganisms comparable to bacteria of extremely small size, the other defining the virus as a chemical, possessing unusual properties. The author gives his reasons for believing that there is no ground for the view that constituent particles are organisms. He explains his conviction of the chemical nature of viruses and their power to multiply. The amount of suffering and loss of life, as well as financial losses, caused by virus diseases are incalculable, since they exist among men, animals and plants. There is a discussion of the relationship between viruses and insects which spread them. Important virus diseases are listed with descriptions of their occurrence in animal and vegetable life which offer interesting information on this vital topic.

THE DIAGNOSIS AND TREATMENT OF CARDIOVASCULAR DISEASE. Edited by William D. Stroud, B.S., M.D., F.A.C.P. Professor of Cardiology, University of Pennsylvania Graduate School of Medicine, etc., with 56 Contributors. Fully Illustrated. Vols I and II, 1825 pp. \$18. F. A. Davis Co., Philadelphia, 1940.

In these two volumes a detailed account of all subjects of cardiovascular interest is given. They include congenital abnormalities, rheumatic fever, syphilis, hyper- and hypotension, and relation of the heart to ductless glands and kidneys. The various arrhythmias are fully discussed. Of special interest is the section dealing with electrocardiography. Here one may find graphs with sufficient explanation in the text, so that an accurate interpretation of any pattern that one may be using for comparison may be given.

In the second volume digitalis and quinidine preparations and their administration are discussed. Here we find a most interesting section on congestive heart failure and another on the heart in deficiency diseases. Various surgical pro-

cedures used for treatment of heart cases are included. And finally there is an excellent portion which deals with peripheral vascular diseases. This is a satisfactory, instructive reference work on cardiovascular disease that can be heartily recommended both to the general practitioner and specialist.

A. G. FRIEND

CHILD CARE AND TRAINING. By Marion L. Faegre, Assistant Professor of Parent Education and John E. Anderson, Director, Institute of Child Welfare, University of Minnesota. Fifth Edition Revised, 320 pp, \$2.50. The University of Minnesota Press, Minneapolis, 1940.

This is not a medical book for treatment of children's diseases, although a chapter with this heading gives general information concerning common ailments. Its chief purpose is to offer suggestions concerning parental care during the development period. There are chapters on emotional habits, eating habits, sleeping habits. The chapter on constructive discipline would be of value to any parent. "If the parent has made an effort to fill his child's needs he should see that child gradually accumulates principles and ideas which, interpreted by his growing power of thought, will make him a capable and dependable adult." Discussion of imagination, truth and falsehood offers valuable suggestions, as well as that on social development. There is much in this book which would be profitable reading for the parents of young children.

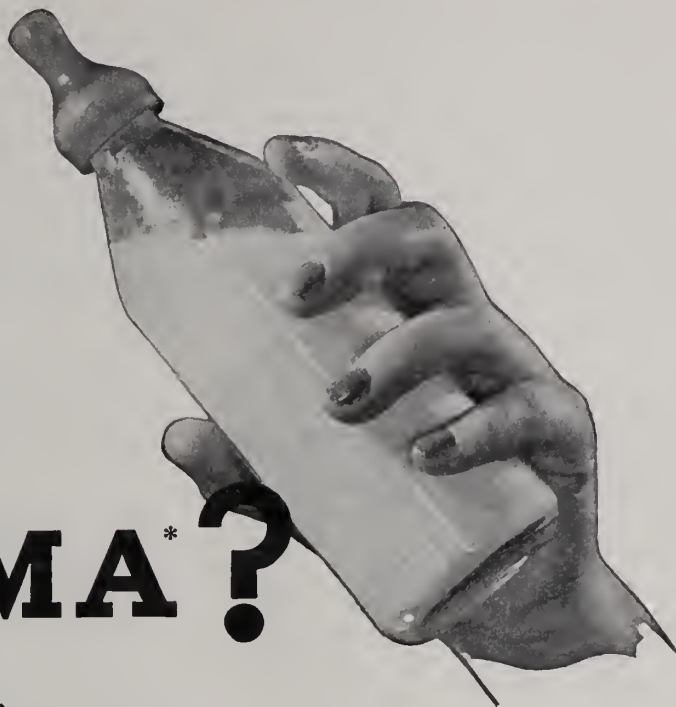
ACUTE INFECTIOUS DISEASES, a Handbook for Practitioners and Students. By J. D. Rolleston, M.A., M.D. (Oxon.), F.R.C.P. (Lond.), F.S.A., formerly Medical Superintendent, Western Hospital, London, etc., and G. W. Ronaldson, M.D. (Glasg.), D.P.H. (Oxon.), Medical Superintendent, South Eastern Hospital, London. Third Edition, Revised and Enlarged. 477 pp. \$4.50. The C. V. Mosby Company, St. Louis, 1940.

This book, based on the writer's personal experience during twenty-five years of practice, is chiefly clinical in character, although bacteriologic and pathologic aspects of each disease are briefly treated. This edition comprises the latest information on treatment of infectious diseases, with which every practitioner deals to a greater or less extent. While typhoid fever has almost disappeared, and diphtheria has been greatly reduced, whooping cough, mumps, scarlet fever, chicken-pox and measles are always with us to some degree. Each of these, as well as other infectious diseases, are discussed at suitable length, each chapter being followed by a comprehensive bibliography. While every practitioner believes that he is thoroughly familiar with basic principles of treatment, it is yet possible for him to obtain useful suggestions from so well a written book as this.

TEXT-BOOK OF PUBLIC HEALTH. By W. M. Frazer, O.B.E., M.D., Ch.B., M.Sc., D.P.H., Medical Officer of Health, Port and city of Liverpool, etc., and C. O. Stallyhrass, M.D., (State Medicine), Ch.B., D.P.H., M.R.C.S., L.R.C.P., Deputy Medical Officer of Health, City and Port of London, etc. Tenth Edition. Revised and Enlarged. 504 pp., \$6.50. The Williams & Wilkins Co., Baltimore, 1940.

This book is of interest as much for the reason that it treats public health in a broad sense, as that it contains some well-stated comments on principles of public health administration and practices. The section on occupational hygiene may be of interest to physicians in this country, who in general are apt to confuse the term with industrial medicine. Occupational hygiene is important in national defense at this time.

EVER FEED SMA*?



When you prescribe S.M.A. for the bottle-fed infant you give an easily digested fat, a protein that provides the amino acids essential for adequate nutrition and growth and *lactose*, a physiological carbohydrate, in correct proportion to the nutritional requirements of the normal full-term infant.

In addition, when prepared according to the usual dilution for feeding, each quart of S.M.A. contains:

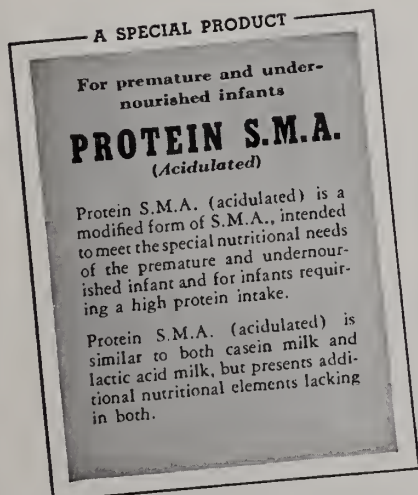
- 7500 international units vitamin A activity
- 200 international units vitamin B₁
- 400 international units vitamin D
- 10 mg. Iron

S.M.A. provides easily digested fat and protein of full biological value in correct proportion to the nutritional requirements of the normal full term infant. Therefore, the only carbohydrate in S.M.A. is Lactose . . .

Normal infants relish S.M.A. . . . digest it easily and thrive on it.

" " "

*S.M.A., a trade mark of S.M.A. Corporation, for its brand of food especially prepared for infant feeding—derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats, including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride; altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrates and ash, in chemical constants of the fat and physical properties.



Many chapters should be of interest because of the review of facts and considerations learned in medical schools which are so often forgotten as later knowledge in medicine is gained. An example is found in the chapter on lighting, ventilation and warming. The section on nutrition and food inspection affords consideration of the problem of milk sanitation, upon which physicians are required to express themselves. It is interesting to note that in England, where at one time much tuberculosis was due to milk, it holds the health department responsible for sanitation of milk, and the department of agriculture responsible for health of the herd. This is a policy that might well be seriously considered by physicians in this country. D. G. EVANS.

DERMATOLOGIC THERAPY IN GENERAL PRACTICE. By Marion B. Sulzberger, M.D., Assistant Chemical Professor of Dermatology and Syphilology, Skin and Cancer Unit of New York Postgraduate Medical School and Hospital of Columbia University, and Jack Wolf, M.D., Attending Dermatologist and Syphilologist of above institution. 680 pp. \$4.50. The Year Book Publishers, Inc., Chicago, 1940.

This volume has been written for easy reference to the more common dermatologic conditions occurring in general practice. Less common dermatoses, morphologic minutiae, pathogenesis and refined diagnostic measures are omitted, while roentgen as well as other methods of physical therapy and particularly specialized technic receive only modest mention.

Beginning with principles of diagnosis and treatment, then carrying through the inflammatory and noninflammatory disorders, the material is set forth under appropriate titles. Individual chapters are brief, though sufficiently complete and accurate for the physician to follow the most approved and safest methods of therapy. In the section on syphilis the authors have pointed out the facts of most importance and have supplemented their discussion with numerous tables and outlines of treatment. Many helpful suggestions are included in the management of syphilis. The book has a definite usefulness for the practitioner with experience, though, as its authors state, it cannot be considered as a substitute for a general text on dermatology. S. T. MERCER.

THE NEW INTERNATIONAL CLINICS. Edited by George Morris Piersol, M.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, with Assistance of Seventeen Collaborators. Volume III, New Series Three. 358 pp., \$3.00. J. B. Lippincott Company, Philadelphia, Montreal, New York, 1940.

Original contributions in this volume, among other subjects, deal with peptic ulcer, coronary disease, urogenital tuberculosis, Mikulicz' disease. More than half is devoted to clinics presented by members of the faculty of Cornell Medical College and the staffs of New York and Bellevue Hospitals, New York City. There are reports of a variety of conditions, including sulfapyridine in pneumonia, sulfanilamide in obstetrics and gynecology, treatment of cryptorchidism. As usual this book covers a great variety of subjects.

SYNOPSIS OF THE PRINCIPLES OF SURGERY. By Jacob K. Berman, A.B., M.D., F.A.C.S., Assistant Professor of Surgery Indiana University School of Medicine, Indianapolis. With 274 Illustrations. 615 pp., \$5.00. The C. V. Mosby Company, St. Louis, 1940.

"This book is written with the idea of correlating the basic sciences with the fundamental principles of surgery." The

body of the text is devoted to treatment designated as "conquered ground" of surgical diseases. Footnotes briefly present correlated facts. For more complete information one must consult more extensive works. Following each chapter are expanded references. Numerous illustrations picture conditions and principles under consideration which are worthy of careful consideration on part of the surgeon.

A HANDBOOK FOR DISSECTORS. By J. C. Boileau Grant, Professor of Anatomy, University of Toronto, and H. A. Gates, Associate Professor of Anatomy, University of Toronto. 239 pp., \$2.50. The Williams & Wilkins Company, Baltimore, 1940.

This is a textbook of anatomy, but briefly presents details and methods of dissection which will be of value to student or physician engaged in this work. Extremities, abdomen, thorax and brain are presented with helpful information and suggestions for the dissector.

NEW AND NONOFFICIAL REMEDIES, 1940. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1940. 656 pp., \$1.50. American Medical Association, Chicago, 1940.

Every physician should have access to this volume, since it lists drugs and remedies which have been tested and proven of value. It is a practical and condensed text of pharmacology and therapeutics. In addition to accepted products there is a long list of those which have been omitted. Statements containing actions and uses of many others have been revised. On yellow pages appears an index of proprietary and unofficial articles not included which offers valuable information.

MANUAL OF DERMATOLOGY. By Carroll S. Wright, B.S., M.D., Professor of Dermatology and Syphilology, Temple University School of Medicine, etc. 376 pp., \$4.00. The Blakiston Company, Philadelphia, 1940.

This manual places emphasis on the dermatoses which make up the bulk of skin diseases seen in general practice, with only a definition or brief mention of the less common conditions. Treatment is limited to a few methods which are most likely to succeed in a given case. This is a handy book for ready reference, replete with valuable suggestions which will be helpful for office practice.

DR. COLWELL'S DAILY LOG FOR PHYSICIANS. A Brief, Simple, Accurate Financial Record for the Physician's Desk for 1941. Standard Log, \$6.00; Double Log, \$11.00. Colwell Publishing Co., Champaign, Illinois.

If one wishes a ready-made record book for daily use, this publication is adequate. It lists the name of patient, service rendered, charge, cash for each month, followed by pages for expense sheet, surgical record and other data. It seems to fill the demands of a useful record book.

SIMPLIFIED DIABETIC MANUAL. With 136 International Recipes, by Abraham Rudy, M.D., Associate Physician and Chief of the Diabetic Clinic, Beth Israel Hospital, Boston. 216 pp., \$2.00. M. Barrows & Company, Inc., New York, 1940.

The purpose of this book is to aid both the patient and physician in treatment of diabetes. It offers the latest developments with special reference to the new insulin combinations. There are chapters dealing with causations and symptoms of diabetes, the body of the book being devoted to recipes with instructions as to the use, preparation, and administration of necessary foods.

NORTHWEST MEDICINE

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EDITORIALS

MEDICAL LEGISLATORS

Whenever the time approaches for biennial sessions of our state legislatures, questions always arise concerning bills likely to be introduced affecting public health and the practice of medicine. The most agitated question has concerned passage of measures setting up some form of state medicine. While this problem has been considered with considerable activity in recent sessions, of late the controversy has subsided somewhat, owing largely to the urgency of measures pertaining to medical preparedness.

While it would be unwise for physicians to exercise too much activity with legislators in matters in which they are personally concerned, yet a degree of observation over prospective medical legislation is desirable and necessary. To accomplish this purpose the presence in the legislature of a certain number of medical men is helpful, as well as familiarity with the views of prospective legislators regarding questions of public health and regulation of medical practice. It is of interest to note the prospects along these lines for the coming legislative sessions of our three states. Already there are rumors of proposed bills looking toward introduction of some forms of state regulation of physicians, establishment of state hospitals and other matters in which the profession is vitally concerned.

The profession will be interested in consideration of medical legislators who will function in the sessions during the coming winter. In the Oregon Senate J. C. Booth of Lebanon and J. A. Best of Pendleton will sit as holdover senators, with whom will appear H. R. Kauffman of Toledo, elected last month. In the House of Representatives will appear C. T. Hockett of Enterprise and J. F. Hosch of Bend, both reelected. With such a group of experienced legislators questions pertaining to public health and medical matters in Oregon should be subject to wise advice and leadership.

In Washington Donald Black of Port Angeles

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has been elected to the Senate, while V. G. Backman of Pasco, U. S. Ford of Forks and U. M. Lauman of Randle have been elected to the House of Representatives, Dr. Lauman having served in the previous session. Also to the Senate was elected Mrs. Lulu D. Haddon of Bremerton, member of the Woman's Auxiliary to Washington State Medical Association. From Spokane David Cowan, dentist, was reelected as representative, the last two mentioned being closely allied to the medical profession. Under their observation medical legislation will be carefully scrutinized.

In the Idaho legislature C. A. Robbins of St. Maries and T. R. Mason of Kellogg will serve in the Senate, while J. D. Shinnick of Grangeville will be a member of the House of Representatives. A. R. McCabe, dentist, of St. Maries, was also elected to the House. With these groups of legislators personally interested in medical legislation, there is reason to believe that matters in which the profession is vitally interested will be carefully considered.

METHOD OF ADDRESSING YOUR STATE LEGISLATORS

Recently the legislative bureau of the Medical Society of the State of New York addressed a special bulletin to its members containing advice regarding the proper method of presenting communications to congressmen and legislators. This contains so much good sense, applicable to physicians in every state, that it is considered worthy of reproduction at this time:

The Chamber of Commerce of the United States has issued a communication offering advice to people concerning their relations with the members of Congress, under the title "In Writing to Your Congressman," with the captions "Do's and Don'ts." We are taking the liberty of adapting this communication for the benefit of the readers of our bulletin. To our personal knowledge, violation of some of these Do's and Don'ts has been the cause of friction between physicians and their legislators, with unfortunate results:

When the Legislature passes a law relating to the practice of medicine, you as a physician know pretty well what the effect of that law will be. But experience has shown that members of the Legislature do not always know how and why their legislative acts will affect the practice of medicine unless physicians write and tell them.

Your views are always welcome, for the men who stay in the Legislature the longest are those who read and heed their constituents' letters. But there's a right way to write effectively to your legislators. May we offer these suggestions:

DO:

Spell your legislator's name correctly. Make sure whether he is a Senator or an Assemblyman. State concisely what you think and why, the briefer the better. Cite specific illustrations, whenever possible, as to effects proposed legislation would have on the practice of medicine and people in your community.

Write on your office stationery. Sign your name plainly. Type it under the signature. Send a letter rather than a telegram when time permits. Seize every opportunity to become personally acquainted with your legislators.

DON'T:

Threaten political reprisals. Write in a captious or belligerent mood. Remind your legislators of broken promises. Attempt to speak for anybody but yourself. Insert newspaper clippings or mimeograph material. Send a chain letter or post card. Quote from form letters. Write only when you want a favor. Letters of commendation are always welcome. Try to make an errand boy out of your legislator. Become a chronic letter writer.

ABOLISH THE OFFICE OF CORONER

The record of the medical profession in development of public health departments in this country was well outlined in a recent editorial in the *Journal of the American Medical Association*.¹ It is well that we are reminded occasionally of the leadership which American medicine has always displayed in matters pertaining to health of the public or service to governmental organizations. In former years the ethics and leadership of the profession have been taken for granted, while the respect and honor accorded it have also been unquestioned. The profession has distinguished itself from its earliest times. It has taken the lead in any movement destined to benefit the public. Perhaps the honor previously accorded may have been in some measure due to recognition by the public that medical men were sincerely and vitally interested in promoting measures to improve the health of the public.

Many things come to mind which could be done to improve the present status of medical matters. When our state legislatures meet next year, they will be presented with programs designed to break down the safeguards now thrown around medical service to the public. It will be necessary to point out the fallacy of these measures and urge their elimination. There is some little danger in such a course. We may become known only for our destructive tendencies. Might it not be well to present a few constructive measures which will maintain the status of the profession as an organization, upon which the public may rely for the very best and wisest medical legislation?

Innumerable things remain to be done. One of these might well be the effort to establish in the West a system of medical examiners such as have replaced in the East the outmoded office of coroner. It is estimated² that probably 20 per cent of all deaths require official medicolegal examinations. About one-half of these are cases of sudden death

1. Editorial, Public Health and The Medical Profession, J.A.M.A., 115:1722, November 16, 1940.

2. Moritz, A. R.: Status of Legal Medicine in America, Clinical Bulletin, School of Medicine Western Reserve University, 4:49-51, May, 1940.

or those of obscure causes. It is reported that in the New York medical examiners' office there are discovered each year approximately fifty cases of entirely unsuspected deaths by violence. Many cases in which clinical evidence indicated death due to violence are subsequently found due to natural causes.

The United States holds a unique position in the community of nations, since in very few sections are deaths examined by competent and trained medical examiners familiar with the needs of law enforcement agencies. The coroner system seems to be outmoded, since very seldom are coroners fitted by training or experience to undertake scientific medicolegal investigation of deaths due to violence or obscure causes. This condition is one which could and certainly should be improved.

BE MINDFUL OF THE DRUG ADDICT

No sufferer presents himself in a doctor's office in a more impressive and pitiable condition than the drug addict deprived of his necessary narcotic. One of the great problems for medical supervision and government control is the care of these unfortunate victims who are generally subject to a minimum of sympathy and a certain degree of contempt. While there has been a wide difference of estimation concerning the number of addicts on the part of social workers and government officials, yet they constitute a real menace to the body politic in many respects.

Among the most contemptible individuals in existence are the harpies who enrich themselves functioning as peddlers of drugs to the addict. Their chief source of narcotics has been smugglers who have succeeded in landing the drugs at our various seaports. It has been asserted that, if these sycophants could be suppressed and the supply of drugs placed under the control of government officials, drug addiction might be suppressed. It is claimed at the present time, however, that there has been a great diminution in the ranks of peddlers, due to the government's successful reduction of smugglers, with consequent limitation of narcotics for the addict.

Since the supply from this source has now been so greatly reduced, the desperate condition of the addict has resulted in bold robberies of physicians' offices, drug stores and hospitals, even some of the wholesale manufacturing concerns having been burglarized, all for the purpose of obtaining narcotics to meet the demands of the desperate addict. Advice has been extended to physicians to exercise extreme care as to the amount of narcotics available in their offices and medicine cases which they

may carry in their cars. The wise physician will be alert to the necessity of thus guarding the supply of narcotics that may be in his possession.

SALE OF CHRISTMAS SEALS

In no widely prevailing disease has there been a more notable and astounding reduction of mortality in the past half century than has been displayed in the universal affliction of tuberculosis. Statistics are constantly being presented, demonstrating to how large an extent this disease has been conquered. Beginning with the discovery of its causative bacterium, constant and persistent efforts toward its control and eradication have produced the existing gratifying progress. While at the beginning of this period there were no institutions in this country devoted specifically to the treatment of tuberculosis, all over the country they now number in the thousands and their beneficent functions are constantly increasing with progressive results.

These successes have depended upon the expenditure of large sums of money, much of which has been obtained from national, state and local sources. The most productive individual resource for many years has been the annual sale of Christmas seals. While physicians commonly invest certain sums in these seals, the bulk of revenue must come from the general public. The physician, however, can promote their purchase by his personal commendation and recommendation to those with whom he has influence. No more worthy appeal is annually made to the people of this country than this purchase of Christmas antituberculosis seals.

CONGRESS OF INDUSTRIAL HEALTH

The third Annual Congress of Industrial Health under the auspices of the American Medical Association will be held at the Palmer House, Chicago, January 13-14. If any physicians of our three states find it possible to attend this congress, it will be a valuable and profitable experience. The program includes papers on various phases of industrial health and its practice, industry and national defense. One group of papers deals with hand injuries, while others consider trained industrial health personnel. Under acute respiratory diseases in industry, papers discuss the well known diseases caused or accentuated by various forms of industry. On the day following the Congress, clinics will be conducted by the Chicago Medical Society illustrating practical problems in industrial medicine, hygiene and traumatic surgery. For doctors engaged in industrial practice this meeting will be replete with much valuable information.

ORIGINAL ARTICLES

END-RESULTS IN CANCER OF THE
LARGE BOWEL*

RICHARD B. CATTELL, M.D.
BOSTON, MASS.

Careful studies of end-results in all groups of malignant cases are necessary to evaluate the methods of treatment. These should be concerned with incidence of complications, operative mortality, rehabilitation of the patient as well as the more usual consideration of five year survivals. While the problem each patient represents must be considered an individual one as regards prognosis and treatment, the critical analysis of end-results in a large series of cases offers the best means of determining the success or failure of treatment. This paper presents end-result studies in a consecutive series of patients with carcinoma of the colon and rectum, all of whom have been observed for a period of from five to nine years.

From 1930 to 1934 inclusive, 270 patients with carcinoma of the large bowel were observed at the Lahey Clinic. The malignancy was located in the rectum or rectosigmoid in 172 patients and in ninety-eight patients it occurred in the colon, including the sigmoid portion. In this study I have divided the malignancies of the large bowel into two groups of rectal and colon cases because of the two general types of operation that were utilized in treatment.

Rectal	172
Per cent	
Resected— 98.....	57
Not resected—74.....	43
Colon	98
Resected— 54.....	55
Not resected—44.....	44

Table 1. End-results in cancer of the large bowel. 270 patients (1930-1934 inclusive).

The operability rate in the rectal cases was 57 per cent. In this series of one hundred and seventy-two patients there were ninety-eight resections (table 1), while in seventy-four either some type of palliative procedure or no operation was carried out. In the series of ninety-eight colon cases, fifty-four were resected, an operability rate of 55 per cent, and in this group forty-four had some palliative procedure or no operation. It is important to state that in estimating this figure of operability all cases are included that came under observation during this five-year period. Furthermore, all cases

that refused operation, whether favorable or unfavorable, are included in the group that were not resected, even though some had later resections elsewhere. It is of interest to compare this operability rate of 55 to 57 per cent in the two groups with that which has been determined for the years of 1935 to 1938, inclusive (table 2). It will be noted that in 1938, 89 per cent of all patients seen were submitted to resection.

Per cent		Per cent	
1929.....	58.3	1934.....	68.5
1930.....	52.6	1935.....	75.9
1931.....	61.5	1936.....	79.9
1932.....	62.4	1937.....	88.9
1933.....	64.4		

Average 9-year percentage—72 per cent.

Table 2. Cancer of the rectum. Operability—341 cases.

Based on our present experience, I believe that an operability rate of over 70 per cent can be maintained, but this higher percentage needs some explanation. From a critical survey of more recent cases I have not found that the percentage of favorable lesions is any higher than formerly in spite of all efforts for earlier diagnosis. The operability rate has been raised because of an increasing experience, better preparation for operation, more satisfactory anesthesia and because of a lowered operative mortality. I have previously pointed out that in recent years approximately one-half of the patients who have been submitted to resection had a favorable lesion. In other words, one-half of the patients who are submitted to resection had the malignant process confined to its primary site, whereas the other half have local extension, regional or distant glandular or possibly liver metastases. It is for this reason that I have differentiated between an operability rate and a resectability rate.

For the purpose of later end-result studies of patients with malignancy of the large bowel I feel that the favorable cases that are being submitted to resection should be separated from those having distant glandular metastases, invasion of adjacent organs or liver metastases, since it is obvious that the end-result studies in the latter group will show few patients surviving for a five-year period. In spite of the fact that there is little chance of a cure in these unfavorable cases, I believe that resection of the primary lesion is justified since it offers considerable benefit from the standpoint of comfort, even though the duration of life may not be much longer. This point will be well illustrated by a recent experience.

A man of sixty years, with a carcinoma of the rectum of twelve months duration, was found at the time of abdominal exploration to have a large, apparently single metastasis in the right lobe of his liver. The lesion in the upper

*From Department of Surgery, Lahey Clinic.
*Read at the Twenty-fourth Annual Graduate Medical Course, University of Washington, Seattle, Wash., July 15-19, 1940.

rectum was movable and there appeared to be no glandular involvement beyond the local field. A large "V" incision was made around the metastasis in the liver, resecting a mass 9 cm. in diameter, and the defect in the liver was closed. A first stage abdominoperineal resection was done to complete the procedure. Seventeen days later the second stage of the abdominoperineal procedure was successfully carried out.

It is my feeling that every primary lesion of either the colon or rectum should be resected, when it is technically possible unless there are massive liver metastases.

CARCINOMA OF THE COLON

The type of operation employed for resection of the colon malignancies was a modified Mikulicz type of resection in fifty-one of the fifty-four resected cases. In three a preliminary anastomosis was done around the lesion, followed after a short period by resection. There were eight operative deaths in the fifty-one resections performed after the modified Mikulicz plan. This included two cases in which it was necessary to remove a portion of the stomach. It is impossible in this paper to discuss the factors responsible for mortality. Twenty-seven patients showed no evidence of recurrence for five years or more following operation (table 3).

Mikulicz resection	51
Operative deaths	8
Died, recurrence	14
Died, other cause.....	1
Unknown	1
Well (5 to 9 years).....	27

Table 3. End-results in cancer of the large bowel. Cancer of the colon.

The period of observation was five years for eight patients, six for five patients, seven for nine patients, eight for two patients and nine years for three patients. Fourteen patients are known to be dead of recurrence. Ten died within two years, while two died during the third year and two during the fifth year after operation. One patient died one year after operation of pneumonia, without recurrence. No observation was possible in one patient (table 4).

Well	27
5 years	8
6 years	5
7 years	9
8 years	2
9 years	3
Dead of recurrence.....	14
1 year	6
2 years	4
3 years	2
5 years	2

Table 4. End-results in cancer of the large bowel. 51 Mikulicz resections.

In the small group of three patients having a two-stage resection of the colon there were no deaths. Two were free of recurrence when observed five

years after operation, and one died of recurrence four years after operation (table 5).

Two stage resection	3
Operative deaths	0
Well 5 years.....	2
Dead in 4 years.....	1

Table 5. End-results in cancer of the large bowel. Cancer of the colon.

In the forty-four patients with carcinoma of the colon in whom resection could not be done, thirty had either colostomy or anastomosis around the lesion. There were four operative deaths in this group, and only two patients were known to live more than one year after operation. Six had explorations only and in eight no operation was performed. All of these patients were dead within six months (table 6).

Palliative	44
Colostomy and anastomosis.....	30*
Exploration	6
No operation	8

*Only two patients lived over 1 year.

Table 6. End-results in cancer of the large bowel. Cancer of the colon.

The results in the patients having resection for carcinoma of the colon are shown in table 7. It will be noted that the operative mortality was 15 per cent; 27.7 per cent died of recurrence, 3.7

	No.	Op. death	Dead, rec.	Un-known	Well
Mikulicz	51	8	14	2	27
Resection, two stage.....	3	0	1	0	2
	54	8	15	2	29
Per cent—	15	27.7	3.7	53.6	

Table 7. End-results in cancer of the large bowel. Cancer of the colon.

per cent died of other causes or could not be followed, while 53.6 per cent were free of recurrence for more than five years.

CARCINOMA OF THE RECTUM

Four types of operation were employed in the group of patients having carcinoma of the recto-sigmoid and rectum. The end-results for each group will be shown separately. In this group there were one hundred seventy-two patients, ninety-eight of whom were submitted to resection.

A two-stage abdominoperineal resection by the method described by Dr. Lahey in 1929 was carried out in fifty-five patients. It will be noted that the period of this study, from 1930 to 1934 inclusive, immediately follows the year that this two-stage operation was presented. In the group of fifty-five resections of this type there were ten deaths, five after the first and five after the second stage. Twenty-seven patients were free of recurrence for the period of observation of five to nine years (table 8). Ten patients were observed for five years,

Two-stage abdominoperineal resection (Lahey).....	55
Operative deaths	10
Dead, recurrence	16
Dead, other cause.....	1
Unknown	1
Well (5 to 9 years).....	27

Table 8. End-results in cancer of the large bowel. Cancer of the rectum.

Well	27
5 years	10
6 years	6
7 years	6
8 years	4
9 years	1
Dead, recurrence	16
1 year	5
2 years	4
3 years	7

Table 9. End-results in cancer of the large bowel. Lahey operation for cancer of the rectum.

six for six, six for seven, four for eight and one for nine years. Sixteen patients are known to be dead of recurrence. Five died during the first year, four during the second, and seven during the third year. One patient died without recurrence of another cause three years after operation. One could not be followed (table 9).

Seven patients had one-stage abdominoperineal resection without operative mortality. Four have had no evidence of recurrence, with three being observed for five and one for eight years. Three patients are dead of recurrence, one each dying during the first, second and third years (table 10).

One-stage abdominoperineal resection (Miles).....	7
Operative deaths	0
Dead, recurrence	3
Well (5-9 years).....	4 (3-5 years 1-8 years)

Table 10. End-results in cancer of the large bowel. Cancer of the rectum.

Twelve patients had a one-stage abdominal or anterior resection, leaving a small rectal stump. This operation was employed in rectosigmoid growths. There was no operative mortality. Three have shown no evidence of recurrence (table 11).

Anterior or abdominal resection.....	12
Operative deaths	0
Dead, recurrence	8
Dead, other cause.....	1
Well	3 (1 each 5, 6, 8 years)

Table 11. End-results in cancer of the large bowel. Cancer of the rectum.

The period of observation was five, six and eight years for these patients. One patient died of another cause two years after operation. Eight patients are known to be dead of recurrence, four during the first year, two during the second and one each during the fourth and fifth years after operation.

A two-stage operation, consisting of loop colostomy and perineal or posterior resection, was carried out in twenty-four patients with four operative

deaths. Nine patients are well without recurrence, with three being followed for periods of five, eight and nine years. Ten patients are dead of recurrence, four each during the first and second year, and one each during the third and fifth year. One patient died of pneumonia two years after operation (table 12).

Perineal or posterior resection.....	24
Operative deaths	4
Dead, recurrence	10
Dead, other cause.....	1
Well.....	9 (3 each for 5, 8, 9 years)

Table 12. End-results in cancer of the large bowel. Cancer of the rectum.

The composite end-results for ninety-eight patients having resections of the rectum and rectosigmoid for carcinoma are shown in table 13. The operative mortality was 14.3 per cent. Thirty-seven and eight-tenths per cent of the patients died of

	No.	Op. death	Recur- rence	Un- known	Well
Lahey	55	10	16	2	27
Miles	7	0	3	0	4
Anterior	12	0	8	1	3
Posterior	24	4	10	1	9
	98	14	37	4	43
				(Per cent—43.8)	

Table 13. End-results in cancer of the large bowel. Resections for rectal cancer.

recurrence, while in an additional 4.1 per cent the result was either unknown or death occurred from another cause; 43.8 per cent of these patients showed no recurrence of the malignancy for the period of observation of five to nine years.

In the group of one hundred and seventy-two rectosigmoid and rectal cases, seventy-four did not have resection. In fifty patients, simple colostomy was done. In thirty-eight of these fifty cases, in which the date of death is known, thirty-two died in one year or less, while six died during the second postoperative year. Seven patients were explored without other operative procedure, and seventeen had no operation or refused operation (table 14).

Palliative	74 (all dead)
Colostomy	50*
Exploration	7
No operation	17

*Of 38 known date of death 32 died in 1 year and 6 died in second year.

Table 14. End-results in cancer of the large bowel. Cancer of the rectum.

The five year curability or survival rate in this series of 270 patients is shown in table 15. It will be noted that in the rectal cases 43.8 per cent

	Resected Per cent	5-year cure Per cent
Rectal (172)	57	43.8
Colon (98)	55	53.6

130 resected cases survived operation and 72 were free from recurrence, 55.4 per cent.

Table 15. End-results in cancer of the large bowel. 270 cases.

showed no recurrence, while similar good results were noted in 53.6 per cent of the colon cases that were resected. In order to estimate the possible results in these cases it is of interest to consider the freedom of recurrence of those cases surviving operation. A total of one hundred and thirty cases (eighty-four rectal and forty-six colon) survived operation, and of this number seventy-two were free of recurrence for from five to nine years (forty-three rectal and twenty-nine colon). This estimated figure shows that 55.4 per cent of the patients surviving resection were free of recurrence. It is important to point out, however, that during the period of this study from 1930 to 1934 the operability rate was but 55 to 57 per cent. As the operability rate was raised to the high figure of 89 per cent in 1938, it becomes clear at once that we cannot expect as high a percentage of patients free of recurrence when a greater number of unfavorable cases are submitted to resection. It is for this reason that we have suggested earlier in the paper dividing the favorable from the unfavorable cases in order to have a more accurate idea of prognosis for resected cases.

A consideration of these end-results clearly shows that the surgical treatment of carcinoma of the large bowel offers an excellent chance for relief. However, a study of the time of survival does not permit an evaluation of benefits that is possible in the advanced cases. Based on my personal observations of the surgical treatment of the advanced cases, I feel that resection is justified in all cases that can be submitted to resection.

SUMMARY

A series of 270 consecutive patients with carcinoma of the colon and rectum observed during 1930 to 1934, inclusive, is presented. The operability rate including all patients seen was shown to be 55 to 57 per cent.

The end-results during a period of five to nine years observation are presented, based on the type of operation employed and the location of the lesion; the operative mortality for the rectal cases, 14.3 per cent; for the colon cases, 15 per cent.

The five year survival for the rectal cases was 43.8 per cent and for the colon cases was 53.6 per cent.

Radical resection is recommended for all patients having carcinoma of the large intestine as the best treatment for these cases.

CARCINOMA OF STOMACH AND INTESTINES*

S. F. HERRMANN, M.D.

TACOMA, WASH.

Cancer of the stomach accounts for more than one-third of all cancer deaths. It kills 40,000 to 50,000 of our citizens annually. Are we doing anything to prevent this? Have we anything to offer? Let us look at the record. The remarkable recent study of Livingston and Pack¹ enables us to do this easily and completely. They have analyzed and reviewed one thousand publications and reports of 14,000 gastrectomies for cancer. With that much information correct conclusions seem possible.

Historically we note that the first successful gastrectomy for cancer was done by Billroth in 1881. The patient survived almost four months. Many other attempts followed, with such generally bad results that Welch was moved to review the record in 1885. He found recorded thirty-seven cases of resection, with twenty-seven deaths and ten survivals, a mortality of seventy-three per cent. Moreover, further analysis showed that of Billroth's eight cases five lived, of his pupil Czerny's four cases two lived, but of twenty-five cases done by twenty-five different surgeons, only three lived and twenty-two died, a mortality of eighty-eight per cent. None of these surviving patients lived more than one and one-half years.

Billroth was shocked by this apparent slaughter and stated that probably not more than one cancer in two hundred was resectable. Later he raised this to one in fifty. Welch's requirements to justify operation were these: (1) there must be no distant metastases, (2) the lesion must be favorably located, (2) there must be less than total involvement of the stomach, (4) absence of fixed adhesions, (5) a reasonably operable patient, not unduly emaciated, (6) a specially trained surgeon and team.

With these recommendations as a guide gradual progress was made. By 1920 reports of resections aggregated three thousand. Resectability in some clinics was as high as one in six; the mortality was often as low as twenty per cent, and there were eight to twelve per cent of five year survivals. More recent reports are even more impressive. We find individual long term cures of twelve, seventeen, eighteen, twenty-one and, in A. Schwyzer's outstanding case, of twenty-four years. The total ex-

*Read before the Fifty-first Annual Meeting of Washington State Medical Association, Tacoma, Wash., Aug. 25-28, 1940.

1. Livingston, E. M. and Pack, G. T.: End-Results in Treatment of Gastric Cancer. P. B. Hoeber & Co., Medical Department Harper Bros., N. Y., 1939.

perience of individual clinics too is amazing. For example:

	<i>Resected</i>	<i>Resect- ability Per cent</i>	<i>Mortality Per cent</i>
Finsterer—	329 of 518 cases	63.5	19.4
Lahey	50 of 109 cases	45	34
Mass. Gen'l Hosp.—	154 of 441 cases	35	13.9
Mayo Clinic—	2,111 of 4,793 cases	44	13.9

The highest rate of resectability, 70.9 per cent, was reported by Wangenstein², and the most admirable record as to mortality is that of Balfour³ who had two hundred consecutive resections with a mortality of only five per cent. Pack and Livingston had sixteen consecutive cases without a death.

What is the chance of cure today? If the tumor is resectable, average figures indicate that twenty per cent will live ten years, and thirty per cent will live three years. Compare this with the average survival of four months, if no resection is done. According to Balfour⁴ the prognosis depends on many factors. The older patient has a better outlook. Symptoms of short duration, less than six months, mean only twenty per cent of five year cures; if symptoms have been present twelve months or more, thirty per cent will be cured. Other favorable factors are normal acidity, large size of the lesion and locations away from the pylorus. He finds forty-eight per cent of five year cures if lymph nodes are not involved and eighteen per cent with involved nodes. In pathologic grades one and two, sixty-three per cent will be cured, but in grades three and four only twenty per cent.

The figures as given certainly should convince the most skeptical that surgery can cure cancer of the stomach. In fact, we may state axiomatically that the only known cure for cancer of the stomach is surgical resection. Without it the mortality is one hundred per cent. Why, then, be so dissatisfied and gloomy about this picture? Because we have not as yet clearly stated the whole story. It is true that the resectable case has a fair prognosis in expert hands, but of 30,000 to 50,000 cancers occurring annually only about 10,000 are resectable. The rest are doomed. If they reach the surgeon at all, they are found inoperable.

This task of improving the situation does not fall upon the surgeon alone. We must make earlier diagnoses, and must advise and insist upon surgical exploration. If we use every facility the diagnosis

can be made. Roentgen diagnosis is accurate in ninety per cent of cases. I have had too little experience to judge of the value of the gastroscope. Cases have been reported where the gastroscopist found a lesion, especially in the fundus, which the roentgenologist could not demonstrate. However, the latter will serve us well in ninety per cent of cases. He may not be able to tell us definitely that a lesion is malignant, but neither can the gastroscopist. One weakness of this method is that no biopsy can be taken.

It is a safe rule that every gastric lesion not definitely proven to be benign should be resected. We hear of a possible predisposing gastritis. We know that polyps and achlorhydria are frequent precursors of cancer. The actual transformation of chronic benign ulcer to cancer probably occurs in only three to five per cent, but prolonged medical treatment of a gastric ulcer which does not heal is certainly unjustifiable. Early diagnosis will depend on much more frequent roentgen examinations.

Surgical exploration must be advised in every case unless there are obvious distant metastases. Only in this way can lives be saved. There is a feeling among many men in the profession, and among most laymen, that such an operation is only a futile gesture designed to satisfy the conscience that everything has been done. This may be true, if the operation is done by an unqualified, casual surgeon inexperienced in this field. No surgeon has a moral right to explore a case of cancer of the stomach unless he is prepared and has the facilities for doing a gastric resection. The greater his experience, the more will the limit of operability be extended.

It must be recognized, too, that there is a real value in certain palliative operations. Relief from obstruction, pain, hemorrhage and slow starvation makes the remaining months of life more tolerable. The most convincing argument for exploration comes from pathologists who tell us that in twenty per cent of autopsies for death from cancer of the stomach the lesion is found to be still localized in the stomach and resectable. Shall we deny these people their chance of cure, when in expert hands this chance is over forty per cent?

Most of us do not realize, and certainly the laity does not know that numerically more cases of cancer of the stomach are cured than of any form of internal cancer, except of the rectum. It is true that the total number cured does not exceed five per cent of those with the disease, but five per cent of 50,000 is 2,500. If in the total of 50,000 our

2. Wangenstein, O. H.: *Surgical Management of Carcinoma of Stomach*. Minnesota Med., 23:210-15, March, 1940.

3. Balfour, D. C.: *Curability of Carcinoma of Stomach*. Surg., Gynec. & Obst., 54:312-316, Feb., 1932.

4. Balfour, D. C.: *Factors of Significance in Prognosis of Cancer of Stomach*. Am. J. Surg., 105:733-740, May, 1937.

most diligent efforts find 10,000 resectable cases, that is a greater number than all of the cases of cancer of the breast. To cure only three to four per cent of gastric cancers is numerically equivalent to curing one hundred per cent of cancers of the lip, since cancer of the stomach is thirty times as frequent. Forty to fifty per cent of five year cures in cancer limited to the stomach, or twenty per cent of ten year cures in unselected resectable cases is no mean achievement. And the total number of lives saved can by our determined, concerted efforts be greatly increased. We must find the lesion while it is still resectable.

Cancer of the small intestine occurs infrequently. By comparison it is almost insignificant. During the years 1907-1939 only one hundred eight cases were seen at the Mayo Clinic.⁵ Cancer of the stomach was seen sixty-five times as often. Some of these lesions are leiomyosarcomas. Twelve and three-tenths per cent survived five years after operation.

Cancer of the colon and rectum is a subject which allows a little more enthusiasm. The prospect of cure has increased tremendously in the past twenty years. Cancer in the large intestine comprises fifteen per cent of all cancers. There are about 20,000 new cases a year. But more than half of these sufferers are operable. The operability percentage is steadily increasing.⁶ Gabriel reported operability in forty-one and six-tenths per cent during 1910-1920, and fifty-four per cent in 1921-31. Rankin's rate before 1930 was fifty per cent. In 1935 he had extended this to seventy-four and eight-tenths per cent. T. E. Jones operates on sixty-three per cent. Mortality rates have dropped from over twenty to less than ten per cent. Rankin's latest figure is eight and nine-tenths per cent. Five year cures run as high as 63.4 per cent (Abel⁷).

These surgical triumphs are due largely to greater technical skill, better preoperative preparation, better anesthesia, and particularly better team work. In large clinics this type of surgery is delegated so that certain men gain a tremendous experience. Operability has thus been extended to advanced cases which would previously have been considered hopeless, and which in the hands of the casual, unspecialized operator would have been made just a little more miserable by the establishment of a so-called "palliative colostomy."

Has any man a right to operate on a colonic lesion unless he is prepared to carry out a difficult but possibly curative resection? It seems to me no doctor ever suffers disgrace by acknowledging his limitations, and the interest of the patient is greatly furthered thereby. Colostomy alone, plus cancer, is a terrible affliction, which brings surgery into disrepute; but a permanent colostomy, occasioned by the curative removal of a cancer is quite a different thing. The patient learns to carry on with very little inconvenience and sings the praises of his surgeon wherever he goes.

There have been advances in the diagnosis of colonic lesions, but the rank and file of the profession are not yet alive to the possibilities of early diagnosis. Surgeons are still seeing patients with advanced lesions. More cures have come, as I have stated, because of greater technical skill. Fortunately many of these cancers are slow to spread. Recently a patient with cancer of the rectosigmoid was referred to me who had had symptoms for three years, and had seen three doctors before she finally found one who used his index finger and a proctoscope. Despite this delay a three-stage operation has made complete removal of the lesion possible.

That I am not overstating the situation is attested by autopsy records. Larson,⁸ in Minneapolis, found that of 210 autopsy cases of cancer of the colon, 113 had no metastases or only few regional nodes. They should have been discovered and cured. Harding and Hankins⁹ reported that 118 autopsies showed no metastases in 41 per cent; moreover, thirty-five cases, in which only a colostomy had been done, were shown at autopsy to have been resectable. Just as in the battle against cancer of the stomach, the greater challenge for improving this situation is not to the skilled surgeon but rather to every practitioner. These cases must be found and must have their chance of curative surgery.

We have no time today to enter into a detailed discussion of symptoms. A diagnosis of cancer of the stomach based on obstruction, a palpable mass, anemia and loss of weight comes too late. We must suspect every dyspeptic symptom in a patient past forty. The trained roentgenologist must be consulted much more frequently. Fortunately the lower colon and rectum are more accessible. The examining finger and proctoscope can reach 65 per cent of all cancers of the large bowel. Here, too,

5. Mayo, C. W.: Malignancy of Small Intestine. *West. J. Surg.*, 48:403-407, July, 1940.

6. Rankin, F. C. and Graham, A. S.: Cancer of Rectum and Rectosigmoid. *Am. J. Surg.*, 46:18-25, Oct., 1939.

7. Abel, A. L.: Five Year Cures of Cancer of Rectum by Radical Abdominoperineal Excision. *Surg., Gynec. & Obst.*, 60:481-482, Feb., 1935.

8. Larson, L. M.: Pathologic Factors in Curability of Cancer of Colon. *Minnesota Med.*, 18:212-218, April, 1935.

9. Harding, W. G., Jr. and Hankins, F. D.: Postmortem Observations of 118 Carcinomas of Large Bowel. *Am. J. Cancer*, 17:434-441, Feb., 1933.

obstruction, cachexia, vomiting, pain, ribbon stools and anemia are late symptoms. Any change in bowel habit, any bleeding or abnormal discharge call for complete examination. If sigmoidoscopic examination is negative, the roentgenologist must explore the upper levels by barium enema and contrast air enema. A reason for the presence of blood in the stool must always be sought. Probably more than half of intestinal cancers originate in adenomatous polyps. To destroy a polyp may mean prevention of disaster.

All of us hope for a better solution of the cancer problem than that of surgical excision. It may be that some day a better understanding of the biology of this disease will effectively guide our efforts at prevention and treatment. Meanwhile we must use all available knowledge and methods. At present this means early diagnosis and early radical resection.

Cancer of the stomach and intestines is invariably fatal without surgery. Any cancer can be cured, if complete removal can be accomplished. Our task is to find these lesions while they are still resectable. Earlier diagnosis depends on the help of an expert roentgenologist. Many lives are being saved but by a realization of the possibilities, and by the combined efforts of the doctor, the roentgenologist, and the experienced gastrointestinal surgeon much more can be accomplished.

MALIGNANT TUMORS OF HEAD AND NECK

PROBLEMS IN DIAGNOSIS*

SIMEON T. CANTRIL, M.D.

SEATTLE, WASH.

Malignant tumors of the head and neck (exclusive of intracranial neoplasms) are anatomically more open to view than those in any other region, yet, being so, they are still too often not recognized in stages which should permit early diagnosis. There are certain blind spots to which we fall heir, either because we fail to appreciate the possibilities of neoplastic growth in these locations, or, knowing this, are too hasty or superficial in our examinations to discover them. I believe it is a fair statement that on the whole carcinomas of the stomach are more often correctly diagnosed by radiography (an interpretation of shadows within an invisible organ) than are carcinomas of the pharynx, even though the entire pharynx can be adequately viewed with the eyes, using only a simple mirror. Likewise, I

am certain that the incidence of incorrect diagnosis of carcinoma of the tongue is considerably higher than for carcinoma of the colon. Yet, when one considers the relative inaccessibility of the colon before operation as compared with the tongue, the discrepancy in accuracy of diagnosis is unwarranted.

The majority of carcinomas of the tongue and oral cavity which we see are relatively advanced, and in most of these lesions the disease was not recognized as a malignant one, when the patient originally sought medical advice. It is still not fully appreciated that carcinoma is not infrequently associated with an old syphilitic glossitis and that any ulceration or induration of mucosae within the mouth must be looked upon with suspicion.

The last two carcinomas of the tongue which I have seen, both in women, have been due to constant irritation of dental origin. In one a sharp cusp was constantly rubbing the lateral border of the tongue and a carcinoma eventually developed at the site. In the second the patient had only two fillings in the teeth, one large gold inlay directly above a large amalgam filling. The carcinoma of the tongue developed on the lateral border directly against these dissimilar fillings because of the continued action of a galvanic current set up in the mouth by this dental storage battery. The magnitude of this current is far greater than is usually appreciated; at times its potential may be as much as one-half volt. Ragged and infected teeth as well as poorly fitting dental plates account for a considerable number of cancers of the oral cavity.

An adequate biopsy, examined by a competent pathologist, is indicated in any suspicious lesion of the oral cavity before any therapy is embarked upon, whether for syphilis, chronic inflammation or other nonmalignant conditions.

We are seeing more early cancers of the lip than came to examination five and ten years ago. Recurrences and deformities following the application of arsenic paste are still not infrequent. This archaic form of treatment is still practiced in the state by some licensed physicians; the greater number we see, however, are those done by quacks of one form or another.

Rather than attempting to briefly consider a multiplicity of cancers that may arise in the head or neck, I would prefer to call to your attention in more detail two forms of malignant growths which are usually overlooked until in an advanced stage, when adequate therapy is difficult or impossible. I refer to (1) tumors of the nasopharynx and (2) maxillary sinus.

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Let us consider, first, the most frequent blind spot in the diagnosis of all tumors of the upper aerodigestive tract, namely, the nasopharynx. This is an anatomic space which can be seen with a mirror and palpated by the finger. The examination of the nasopharynx requires some experience and patience to be sure, but because it is behind a corner and patients do choke and gag at first, the internist, surgeon, ophthalmologist, neurologist, otolaryngologist, in fact all of us, are very likely either to omit the nasopharyngeal examination when it is indicated or never think of it at all.

That this is true is pointed out by Gordon New in reviewing a large group of nasopharyngeal neoplasms. "The difficulty in recognizing the condition is shown by the fact that 185 operations had been performed for the relief of symptoms of 194 patients with malignant lesions of the nasopharynx previous to their admission to the clinic. The most common single operation was tonsillectomy; this was performed in thirty-nine cases. The largest number of operations was on the nose, of which there were fifty-six, which included operations on the maxillary sinuses and removal of polyps, turbinates, septums and so forth. The mastoid was operated upon, myringotomy was done repeatedly, and alcohol was injected for trifacial neuralgia in several cases. Cervical lymph nodes were operated upon in thirty-three cases and teeth were extracted in twenty cases."

I saw a patient only two weeks ago who illustrates so well the pitfalls in the diagnosis of nasopharyngeal tumors, that I would like to recount her history.

She is 38 years of age. Four years ago an "abscess" of the ear was lanced. Two months later she was completely deaf in both ears and had to learn lip reading in order to carry on in public. Her deafness was related by her physician to her nasal obstruction, so an operation was then performed and the septum and a "cyst in the nose" were removed; deafness was unaffected. Soon after she had intense pain in the left eye with failing vision, for which spectacles were prescribed, but without benefit.

Subsequently she developed an aching pain in the upper and lower posterior teeth, and these were extracted, with persistence of pain. Dizziness became very marked, and she had to have help in getting in or out of a chair. Salivation became excessive for no known reason. Subsequently she developed a numbness of the face, right buccal mucosa, and right side of the tongue, associated with an intense shooting pain deep in the face.

She had a postnasal discharge which was not bloody until she consulted an osteopath who examined her pharynx by putting his finger back into the nasopharynx and for the first time, following this examination, there was a bloody nasal discharge. Incidentally, this was the first time anyone had palpated her nasopharynx. Subsequently she developed a lump on the left side of the neck just beneath and behind the ear which grew rapidly and was tender.

It is a tragedy that the march of events had almost their full course in this one patient. She is an example of almost every form of symptom and sign that is manifested by nasopharyngeal tumors. Her history begins with a description of obstruction of the eustachian tubes and posterior nasal orifices and ends with extension of the nasopharyngeal growth through the base of the skull and along cranial nerve paths to produce disturbance in vision, ataxia, sensory changes of the skin and mucosae and pain referred along sensory branches of the gasserian ganglion. Submastoid lymph nodes only complete the picture to place the primary growth in the nasopharynx.

Lymphadenopathy, particularly just behind and below the ear, is the site of predilection for metastases from nasopharyngeal tumors. Cervical lymphadenopathy of unexplained origin should call for a close scrutiny of the nasopharynx because about one-half of these tumors are associated with extensive cervical metastases. It is of interest to note that the diagnosis of so-called "branchial carcinomas" or "primary epitheliomas of lymph nodes" at the Curie Institute decreased proportionately with an increase in the recognition of nasopharyngeal tumors. In 1920, 1921 and 1922 there were forty diagnoses of either "branchial epithelioma" or "primary epithelioma of lymph nodes." In more recent years not more than five cases were diagnosed as metastatic lymphadenopathy, the primary growth remaining uncovered.

I have yet to see a so-called branchial carcinoma, and there is, of course, no such thing as a primary epithelioma of a lymph node. The lesion in the nasopharynx may be very small in relation to an enormous lymphadenopathy. A careful search is sometimes rewarded, and clarifies the origin of the cervical metastases. This is particularly true in relation to lymphosarcoma which not infrequently can be demonstrated to arise in the nasopharynx and gives rise to cervical metastases.

Nasal obstruction, a feeling of fullness or ringing in the ears and varying degrees of impairment in hearing should always make one suspicious of a growth in or around the posterior nasal orifices or impinging upon or growing into one or both eustachian tubes. Postnasal discharge, particularly when bloody, calls for the exclusion of a nasopharyngeal growth.

Manifestations beyond lymphadenopathy, nasal discharge or obstruction and auditory impairment are mostly those due to cranial nerve involvement. The roof of the nasopharynx is the base of the skull,

and tumors in this region may invade the skull directly or enter the cranium by following the upward course of the cranial nerves. In New's report of 194 cases of malignant nasopharyngeal tumors, 61 or 31.4 per cent, had an affection of one or more cranial nerves. The multiplicity of symptoms and signs which may ensue, once the growth has extended into the middle cranial fossa, is the point in the evolution of these tumors at which diagnosis seemingly becomes less rather than more clear. Depending upon the particular path of spread which the tumor follows, any or all of the cranial nerves may be affected. The only ones which seem to be less commonly involved are the first, seventh and eighth.

Diagnosis of the extent of the growth is made by combining the clinical examination with carefully taken roentgenograms of the base of skull and also of the nasopharynx itself. Lateral views of the nasopharynx, when one is familiar with the normal, give helpful information, defining the anteroposterior and inferior spread of the growth.

The greater number of nasopharyngeal neoplasms are epitheliomas. Some of these are highly undifferentiated, rapidly growing and metastasizing. Lymphosarcomas are prone to arise in the nasopharynx because of the abundance of lymphoid tissue present in this region. These may be seen in children as well as in adults. They are usually associated with cervical metastases and in later stages with generalized lymphosarcoma. The third group of malignant nasopharyngeal tumors is the lymphoepithelioma, a clinical and histologic entity, which, like lymphosarcoma and rapidly growing epithelioma, is highly radiosensitive.

Procuring an adequate biopsy from the nasopharynx is not difficult, when the growth is large and can be readily visualized. Biopsy of small or suspicious lesions requires some experience. When the first biopsy fails to show a malignant growth, the evidence is still inconclusive. This is particularly true of lymphosarcoma which may grow under the mucosa without ulceration, making biopsy all the more difficult.

I have taken the liberty to devote considerable time to this one group of tumors because I feel that they are being overlooked in more cases than should be. We are all cognizant of the existence of the more common tumors of the lip, tongue, larynx and pharynx. We have not, however, heard enough about the possibilities of nasopharyngeal tumors to make us alert to find them.

It is not up to the otolaryngologists to make these diagnoses because they are not usually the ones who see these patients in the early stage of

the disease. It is the general practitioner who sees the patients complaining of persistent postnasal discharge, neuralgic pains about the face or teeth, or who in many instances is called upon to prescribe for a persistent fullness or ringing in the ears. It is the surgeon who often removes a lymph node from the neck, receives the report of a lymphosarcoma, and does not realize that lymphosarcoma can exist hidden away in the nasopharynx, tonsil or base of tongue, giving rise to the metastasis which he has removed.

No lymph node tumor should be removed anywhere from the neck until a thorough and competent physical examination has been done, which includes the oral cavity, nasopharynx, pharynx and larynx. The most common malignant tumor in the neck is a metastasis, and with this fact staring us in the face, it should make us all the more cautious to exclude this possibility before removing the lymph node for diagnosis or, not finding a primary lesion which could give rise to a metastasis, ascribe the lymphadenopathy to infected teeth or tonsils, the two most common alibis for lymphadenopathy when a primary lesion is not found.

I should like to offer another word of caution concerning biopsy of lymph nodes in the neck. If the surgeon feels that he may be dealing with a lymphosarcoma or Hodgkin's disease, and has exhausted every possibility to uncover a primary lesion which could give rise to a metastatic deposit, he will promote the welfare of his patient, if he removes with the least possible trauma one of the smaller and more accessible lymph nodes rather than incising into a larger one or attempting its removal.

The histologic diagnosis should be made promptly, and no time lost in beginning roentgenotherapy, if either lymphosarcoma or Hodgkin's disease is found. In fact, I prefer to rely on the clinical diagnosis and have the patient under roentgenotherapy for several days before the biopsy is made, which is a precautionary measure against dissemination of tumor and combats the inevitable stimulus given to any malignant growth which is disturbed.

What is the prognosis of a patient, in whom a malignant tumor of the nasopharynx is found? At the present time his outlook is not hopeful, because it is rare that the diagnosis is made in other than an advanced stage. Treatment of the primary nasopharyngeal tumor, as well as of the metastases of the neck, is preferably by roentgenotherapy alone, as it is for all pharyngeal neoplasms. Considering the patients as a whole, in the best hands

about one in five remains permanently well. With earlier diagnosis the prognosis would be very much better, because the majority of these tumors are among those which are highly radiosensitive. This is a group in which roentgenotherapy, given the opportunity to treat these patients in other than an advanced stage, could greatly improve their outlook and more often prevent an extremely painful and incapacitating disease.

I shall consider more briefly tumors arising in the maxillary sinus. Here, again, we are confronted with delayed diagnosis in practically every patient, and the delay in almost all instances is not on the part of the patient. Unfortunately his initial complaints are common everyday ones which we hear so often that we do not always take them seriously. Practically every patient I have seen with cancer of the maxillary sinus has either had teeth extracted because of persistent toothache; polyps removed from the nose because of nasal obstruction; or his sinus has been irrigated ad lib because of symptoms of sinusitis and failure to transilluminate. If one waits for the textbook picture of cancer of the maxillary sinus (or of any form of cancer for that matter) before thinking of this possibility, the diagnosis will be made too late in the great majority of patients. Complete nasal obstruction, epistaxis, a bulging maxillary bone and perhaps invasion of the hard palate or orbit are the signs of a growth which has escaped all bounds. Yet this is the stage in which the majority of these patients come for treatment.

Early symptoms of cancer of the antrum are those which closely simulate a chronic sinusitis, except perhaps that there is no interval when the patient is without his complaints, and these are more commonly referred to only one side. I suppose that the only truly early carcinomas of the maxillary sinus are those found at operations for sinusitis, when the operator comes upon tissue which is out of the ordinary for an inflammatory membrane and saves this tissue for study.

The symptoms will also vary, depending on the location of the growth in the antrum. Those involving the floor or infrastructure will produce pain in the upper teeth, pain which is not relieved by extraction. Tumors arising or extending medially will block the antrum and eventually the same side of the nose. Nasal discharge may contain blood. Those arising in the suprastructure tend to produce pain in the eye, or numbness over the face by involvement of the infraorbital nerve. Lateral extension is accompanied by pain and swelling in the

cheek. In order to produce these symptoms the bony antral wall is at some place destroyed, and roentgen examination, carefully done, should be able to identify or exclude this destruction. Roentgen examination of the sinuses requires skill both in taking of the film and in the interpretation, and is a procedure which we should call upon our qualified radiologists to do rather than relying upon our own technics and interpretations.

Here, again, the otolaryngologists are not wholly to blame for the number of advanced cancers of the antrum which come to treatment. Sinusitis, like tonsillitis and colitis, is the province many times of the general practitioner. He will do well to keep in mind that a stubborn sinusitis bears close observation and investigation. A dentist, alert to the possibilities of pain referred to the teeth from a maxillary sinusitis or neoplasm, will more often find these cases, when one seeks his services because of toothache and pain referred to the face or ear.

The prognosis of carcinoma of the maxillary sinus is not hopeless. The best surgery can salvage about 40 per cent of cases which remain within the limits of operability. This procedure is one which is mutilating and may require plastic repair. Roentgenotherapy alone has, in one group of cases which were beyond surgical intervention, restored an equal percentage to the status of permanent cure. Earlier diagnosis will improve this prognosis if combined with an acceptance and insistence upon adequate therapy.

CARCINOMA OF THE CERVIX*

MILO HARRIS, M.D.

E. A. ADDINGTON, M.D.

GEORGE J. BRACHER, M.D.

SPOKANE, WASH.

CHARLES B. WARD, M.D.

SEATTLE, WASH.

Carcinoma of the cervix is the most common of the malignant diseases affecting women. It accounts for nearly one-third of all cases of malignancy, and occurs in about 3.5-4 per cent of women consulting physicians according to statistics of large eastern clinics. It causes 90 per cent of the deaths in malignancies of the genital tract.

The majority of the cases occur between the ages of thirty-five and fifty years. About 30 per cent occur after the age of fifty; very few occur after sixty or before thirty. There is an occasional case in the second decade, but from the results obtained

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these must be considered hopeless, since practically none is cured. Many cases occur before or during the menopause, and as a consequence the patient ascribes the few symptoms of an early carcinoma to it. In contrast, carcinoma of the fundus most frequently occurs after the menopause.

As in other malignancies, the cause of cancer of the cervix is not known, but there is general agreement as to the contributing causes. Unrepaired injuries, lacerations and infections resulting from childbirth are recognized as predisposing. Cancer of the cervix is rare in a nulliparous woman, and when it occurs, there is usually an associated infection and malposition of the uterus. Apparently the number of pregnancies are not a contributing cause. However, as one of us (Ward) has pointed out, the length of time since the first pregnancy is of marked significance. Women twenty-five to thirty years of age with cancer of the cervix have usually had a child at the age of fifteen to eighteen years. In other words, cancer of the cervix follows childbirth at an interval of about ten years or more.

It is easy to reason that an unrepaired laceration with erosion subjected to more or less constant infection and further irritation would end as a malignancy, since attempts at normal repair could conceivably progress to the point where the epithelial elements would take on unlimited growth. It is, therefore, important that all injuries to the cervix be repaired as soon as possible. It is also important that they are kept healed.

The cervix is a small organ of a rather complex histologic makeup. The vaginal portion is covered with stratified squamous epithelium continuous with the vagina. At the external os it meets the mucous membrane of the cervical canal. This epithelium is high columnar in type and dips into the body of the cervix to form many racemose glands. It is continuous with, but is different in type to, the endometrium. The cervical glands are branching, drain poorly, are easily infected, and are difficult to rid of infection.

Carcinoma arising in the vaginal portion of the cervix is easily recognized. In the cervical canal it may become quite large before discovery. The early lesion is usually a small ulcerating leukoplakia, a small erosion or ulcer, or a deep nodule not visible on the surface. These defects are symptomless. As usually seen, when the symptoms are severe enough to take the patient to a doctor, the cervix exhibits a large cauliflower growth (most common), an extensive induration and swelling with ulceration, or an excavating ulcer. The cauliflower and ulcerating types can easily be recognized. In the indura-

tive type the cervix is larger than normal, is hard, and slightly nodular. It may or may not bleed on touching. The cauliflower type is characterized by a mass of soft friable tissue which bleeds on touching. The ulcerating type produces an excavating, deep, indurated ulcer. The floor is covered with a dirty gray slough. As the lesions progress the indurative type may change to the ulcerative as the blood supply becomes inadequate. The papillary type becomes larger, but seldom changes to the ulcerative. In all types there is extensive infection with small abscesses. These and the ulceration discharge a purulent, irritating, serosanguinous fluid with a foul odor.

Carcinoma of the cervix is unique in that it tends to remain localized to the pelvic region. It disseminates mainly by direct extension into adjacent structures, but may metastasize by the lymphatics into nodes along the spine and so into the liver and occasionally into the lungs and bones. The first spread is usually by direct extension into the fornices of the vagina or into the broad ligaments, usually the left before the right. It may extend into the bladder or rectum.

Lateral extensions are of great clinical importance because of the nearness of the ureters in the broad ligaments. These lie within a centimeter of the cervix as they run through the base of the ligaments. Involvement of one ligament or both with fixation and displacement of the uterus almost surely damages the ureters by pressure. So common is this that it may be said that the carcinoma does not kill the patient. The patient dies because of the uremia caused by ureteral obstruction. The ureteral dilatation and the hydronephrosis resulting produce pain, the severity depending on the amount of obstruction and the rapidity with which it is produced. Large masses in the pelvis produce pressure on the veins and lymphatics. This may cause edema of the lower extremities and vulva.

Lymph node involvement is uncommon. About two-thirds of the cases coming to autopsy show no extension into the nodes. The nodes when involved are below the umbilicus, and most of them are in the pelvis in the region of the obturator foramina and iliac arteries, the hypogastric glands and below the promontory of the sacrum. These are in an area available to the most effective radiation treatment. About 30 per cent of extensions are through the lymphatics to the liver, peritoneum, lungs and rarely to the bones.

Histologically carcinoma of the cervix may be divided into squamous cell epitheliomas and adenocarcinomas; the former accounts for about 94 per

cent of the malignancies. The adenocarcinomas arise from the epithelium of the canal or from the glands. The epitheliomas arise from the mucous membrane of the vaginal portion, or by anaplasia from the columnar epithelium of the glands. Since Broders' comparison of histologic characteristics with prognosis, it is the usual practice to grade these tumors as to malignancy on the basis of I to IV; grade I being mainly adult or nearly normal in type, and grade IV anaplastic or as abnormal as possible. Grade I epitheliomas of the cervix are rare. About 15 per cent are classified as grade II. The rest are in grades III or IV.

The clinical classification of carcinoma of the cervix has lately undergone considerable standardization, due to efforts of the League of Nations and the American College of Surgeons. They advise the use of a classification which is gradually becoming general. Primary tumors are classified into four stages:

1. Disease limited to the cervix with a mobile uterus.
2. Disease spreading into the fornices with or without induration adjacent to the partially mobile uterus.
3. a. Nodular infiltration of the parametria extending to the wall of the pelvis with limited motility of the uterus or massive infiltration on one side with a fixed uterus.
- b. Superficial infiltration of a large part of the vagina with mobile uterus.
- c. Isolated metastases in pelvic glands with small primary growth.
- d. Isolated metastases in lower part of vagina.
4. a. Massive infiltration of the pelvis.
- b. Involvement of the bladder or rectum.
- c. Infiltration of one or more walls of the vagina with fixation of the uterus.
- d. Remote metastases.

Carcinoma of the cervix is a treacherous disease. Its first symptoms are negligible and are often ascribed to the beginning of the menopause, since carcinoma of the cervix is usually a menopausal or premenopausal disease.

The most important symptom is discharge. This, at first, is little more than an increase in the usual leukorrhea. It progresses, however, to an irritating, foul and later bloody discharge.

Hemorrhage is next in importance. It usually starts as an increase of the menstrual flow, progressing to intermenstrual spotting and later frequent bleeding. It is produced by trauma such as straining at stool, lifting and coitus. It may, and not infrequently does, progress to frank hemorrhages which, being venous in origin, are easily controlled by packing.

Pain is a late symptom as a rule, and is due to extension of the disease into the pelvis, causing obstruction to the ureters or compression of the nerves. The cervix itself is insensible to pain, except that produced by stretching.

Most women associate pain with cancer, and it is easily seen why so many cases of carcinoma of the cervix appear in stages three and four. It is, in our minds, the abnormal discharge which women should be taught to regard as dangerous until found otherwise.

Examination of the patient for carcinoma of the cervix should be no different from the ordinary pelvic examination. It should be included in every physical examination and in all cases complaining of gynecologic disorders. The cervix should be carefully palpated, followed by palpation of the fundus, tubes, ovaries and parametria. The latter can best be felt through the rectum.

Palpation should be followed by examination with a speculum in the lithotomy position. A strong light and careful sponging are necessary. Another position that is important but seldom used is the knee-chest. In the correct position the vagina balloons out, exposing the fornices and cervix to full inspection.

The large common cauliflower, indurative and ulcerative lesions are typical in appearance and are easily diagnosed. However, if we are to cure an increasing number of cases, the small lesions must be diagnosed. Any eroded, ulcerated or indurated lesion, no matter how small, should have a portion removed for histologic examination. This can be done at the time of the office examination by means of a biting forcep punch. An anesthetic is not necessary, since there is practically no pain associated with the removal of the piece of tissue, provided the bite does not extend onto the vaginal wall. If no external lesion is present in an indurated cervix, then a small sharp curette may be used to scrape the canal. Further exploration beyond the internal os is not advisable as an office practice, but if there is intermenstrual discharge of a watery character, then the patient should have a thorough dilatation and curettage.

Biopsy of the cervix is such a simple procedure it should be used routinely in all abnormal cervix cases before any operative procedure such as amputation, cauterization, etc. is done. Another test which should be used routinely in the office is the iodine test, usually associated with Schiller's name, though he was not the first to use or describe it. It is not a test for determining cancer, but is to be used on cervixes which appear grossly normal. Every woman examined in the office should have this test. In other words, it should be used routinely on every case by the general practitioner and gynecologist.

The test depends on staining the glycogen in the

normal squamous epithelium with iodine. This produces a mahogany color on the normal epithelium, while abnormal epithelium containing no glycogen fails to stain, thus appearing as a white or pink spot. To do the test an aqueous solution of 0.3 per cent iodine in 0.6 per cent potassium iodide is liberally applied to the vagina and cervix by large cotton swabs or by actually pouring the solution into the vagina. The excess is swabbed away with dry cotton and search made for white spots or small pink erosions in the dark stain. These spots should be removed for biopsy and the area cauterized. Only about three or four out of a hundred of these will prove to be malignant, but the saving of even one life is well worth the effort. Thus it is that the general practitioner and gynecologist who see these women first should be the ones to use the test. It is of no value in an obvious or advanced condition.

In addition to the pelvic examination, the abdomen should be carefully palpated. The occasional case of enlarged nodes may then be found. An enlarged liver may also be discovered. The neck just above the clavicle on the left side should be palpated for a pilot node. The presence of any of these signs of spreading cancer should be an indication for palliative treatment only.

Patients presenting urinary symptoms should have a cystoscopic examination to determine if there is invasion of the bladder wall. Those with pain in back should have a pyelogram; usually an intravenous study is sufficient. Severe bone pain necessitates roentgen examination of the bones involved. Routine pyelograms should be done in all stage three and four cases.

Carcinoma of the fundus most closely simulates carcinoma of the cervix. The patient is usually a little older and usually has passed the menopause as contrasted to a cervical malignancy which usually occurs before the change. Pregnancy is less often a factor. A curettage ordinarily decides the question, though in some instances it is impossible to determine if the scrapings come from an adenocarcinoma of the fundus or from one high in the cervical canal.

Cervical erosions, chronic endocervicitis with neobothian cysts, etc., are characteristic in appearance. If there is any doubt as to their benignancy, a biopsy should be performed.

Complications are important as regards treatment and prognosis. They can usually be handled as they arise. Ureteral obstruction and pelvic infections are the most important. Involvement of the bladder or rectal walls by the malignant pro-

cess will almost surely produce a fistula and a bad result. Such involvement casts grave doubt on the efficacy of any treatment. Ureteral obstruction can be treated by dilatation before and during the treatment of the malignancy. Pelvic infections can be handled by the usual medical means. In addition, the small roentgen doses used at the beginning of treatment have a very beneficial effect on these women with pelvic infections. In any case where there is infection it is best not to use large doses of radium before cleaning up the field with roentgen rays. This applies particularly to those technics where a single dose of radium is used.

Modern treatment of carcinoma of the cervix makes use of surgery or radiation or both. Surgery is limited to stage one lesions, where the lesion is small and is strictly limited to the cervix. The removal should follow the procedure of Wertheim in taking out the upper portion of the vagina, the uterus, tubes and ovaries, the pelvic peritoneum and lymph nodes. Such a procedure necessarily results in a high operative mortality (15-25 per cent), but is the only one that offers results as good as those of adequate radiation methods. Under the present system of radiation, surgery is contraindicated in the stage two involvement (borderline), and is merely meddlesome in the stage three and four cases.

Radiation treatment of carcinoma of the cervix consists of the use of radium and roentgen ray in sufficient dosage properly distributed to reach all the malignancy and destroy it. The fact that not all malignancies are destroyed is due to many factors besides dosage of radium and roentgen ray. Our only hope in each case is to treat with the maximum effective dose to influence the malignancy and at the same time increase the resistance of the host to it. The technical details are too complicated for a general paper, but the general principle is that of small or moderate doses of radium and roentgen ray over a considerable period of time for a large total dose. By these means we hope to increase the difference in sensitivity between the normal and malignant cells and thus decrease the permanent damage to essential structures.

It is our opinion that, given adequate doses of radiation by the massive dose or the divided dose technics, the number of cases cured of malignancy will be approximately the same, but there will be considerable difference in complications, since the massive dose technic will tend to cause more damage to normal structures, and reduce resistance to infections. The influence of the latter may be a

deciding factor between a well patient and a miserable chronic invalid resulting from a pelvic abscess.

The prognosis in regard to carcinoma of the cervix becomes a complex problem. As Broders has shown histologically, it is best for tumors made up of well differentiated cells (grade I and II) and poorest for highly anaplastic ones (grade IV). The stage of the disease has marked influence. Stage one cases have a good prognosis, while those of stage four are practically hopeless. The type of growth of the tumor is also important. The cauliflower or papillomatous type of growth tends to grow out into the vagina. It is not particularly infiltrative and tends to remain localized. The prognosis in these cases is good. On the other hand, cases of carcinoma which infiltrate readily or which ulcerate, due to poor blood supply, have a poor prognosis, since they tend to spread into adjacent organs, and their response to treatment is also poor. They tend to slough and are seldom cured.

Beside these factors influencing prognosis, there are those of individual resistance and bodily protection to malignancy. These are immeasurable and highly variable factors. The continuation of chronic irritation and presence of complications such as obstruction of the ureters and intestines, infections in the tumor and surrounding tissues, and absorption of toxic products all have a decided influence on the case.

Prognosis also depends on the type of treatment. It is quite evident that cases with carcinoma which is removed surgically do better, if the cells are of the well differentiated, adult type. Cases in this classification are rare. The poorest surgical results occur in the rapidly growing anaplastic types. On the other hand, highly anaplastic cells respond better to irradiation, so that decidedly better results are obtained with radium and roentgen ray in the treatment of these types which form the largest majority of cases.

It is generally considered that adenocarcinoma of the cervix responds poorly to radiation. More recent statistics have shown that with adequate irradiation the response is the same.

Complications following treatment may be separated into general and local ones. The immediate effect of radiation treatment is production of nausea. This is usually a slowly accumulative effect, and is proportional to the dose and volume of tissue irradiated. It may be relieved by moderate amounts of vitamin B complex. This complication is becoming less severe with the use of smaller doses over a longer period of time.

The most important local complication is light-

ing up of an inflammatory process. This is a most dangerous one and may lead to a fatality. Practically all malignancies of the cervix are infected and disinfection is next to impossible. Placing radium in the uterus of a case, which has had a pelvic infection even a long period in the past, may light up the infection. This is true also in using small amounts of radium in treatment of benign uterine bleeding. In placing radium in an infected cervix, great care must be used so as to produce as little trauma as possible. Development of a suppurative process in the pelvis, resulting in an abscess or pelvic peritonitis, presents the same problem in diagnosis and treatment as in an ordinary case.

A cause of infection that is seldom mentioned is that due to temporary stenosis of the cervical canal. Following the application of radium in the canal an edema develops. If the canal is small, this may close it completely, thereby forcing the infected uterine secretions out through the tubes into the pelvis. However, the patient usually complains early of a cramping pain over the symphysis pubis or in the back, which with the diminution of the flow of secretion should lead the physician to probe and dilate the canal.

One of the most difficult problems encountered in treatment of uterine malignancy is the effect of irradiation on the rectum and small bowel in the vicinity. Reactions amounting to vesiculation on the skin and membrane formation in the vagina must produce similar reactions on the intestinal mucosa. The rectal mucosa is especially vulnerable because of fecal contamination and trauma. The new technics recognize this and try to avoid trouble by protecting the midline structures.

Bladder complications are usually less severe. While the bladder is as close to the uterus as the rectum, the urine is somewhat antiseptic and less irritating. Late complications due to excessive reactions are more likely to be bothersome. In most cases a cystoscopic examination shows local telangiectasia and atrophy of the mucous membrane. Bleeding comes from the dilated vessels and usually is of no consequence. The symptoms, however, may be quite severe and resemble a cystitis.

Ureteral obstruction may be a severe complication. It is usually present before treatment begins, and unless the dilatation of the ureters and pelvis is marked or the disease in the broad ligaments not controlled, the ureter returns to a more or less normal state. Cooperation of a urologist is important, since with care and patience rather marked strictures can be dilated. Strictures of the ureter

produce most of the pain in carcinoma of the cervix. It is the immediate cause of the majority of deaths. Pain is usually moderately severe and appears in the groin, hip, sacroiliac and lumbar region soon after the stricture develops. The advent of a pyelitis adds fever and an increase in the severity of the symptoms. The obstruction may become so severe that nephrostomy or transplanting of the ureters may be necessary for saving life.

Atresia of the vagina is a common complication and usually is of no significance, if there is no secreting membrane above the vagina. It may be prevented by frequent dilatation during the healing stage of the reaction so as to prevent adhesions forming across the walls of the vagina.

Surgical treatment of carcinoma of the cervix is limited to the rare stage one case, and has reached the peak of its effectiveness. Results to be expected amount to five year cures in about 35 per cent of cases surviving the operation, if treated by the radical Wertheim operation. This figure is taken as an average from many clinics. Up to the year of 1927 similar comparison showed that radiation results in similar cases gave the same result (35 per cent cure). With the addition of the more numerous stage three and four cases, there were five year cures in 16 per cent (all cases). In this group were cases which were absolutely inoperable and many hopeless. Statistics for more recent radiation technics show an increase to 46 per cent of stage one and two cases and 18 per cent of all cases. When radiation treatment fails to achieve a cure, most of these patients obtain palliative relief to a marked degree, thus adding several months to years comfortable life to their span.

The hope for a higher percentage of cures in carcinoma of the cervix is dependent on healing of all cervical erosions, lacerations and ulcerations before they have a chance to become malignant. Failing that, then earlier diagnosis and treatment must be obtained. Lay and professional education is the answer to this.

252 Paulsen Medical and Dental Bldg., Spokane.

414 Cobb Building, Seattle.

NEWER DRUGS IN TREATMENT OF ARTHRITIS*

K. K. SHERWOOD, M.D.

SEATTLE, WASH.

There are over six thousand treatments directed toward alleviation of chronic arthritis. In this discussion I will give the indications, contraindications

and benefits of five types of therapy, namely, sulfanilamide, focal infection, vitamin C, vitamin B and gold. I wish to emphasize that the use of any one or more of these five methods constitutes only a part of any arthritic treatment.

The chronic arthritic comes to the doctor seeking relief from pain, stiffness, swelling and deformity. In order to properly choose the therapeutic agents of greatest value, it is important to visualize the changes which are taking place within the affected joint. At one end of the scale we have frank unorganized inflammation, that is, free exudate and all the clinical evidence of frank infection. If, instead of unorganized inflammatory tissue, there is organized inflammatory exudate, we have the more chronic, proliferative or atrophic type of arthritis. If the infection is absent or acting upon the joint only by its toxins, with or without trauma, we have edema in the joint structures. If the symptoms are purely the result of trauma, we are dealing with structural disintegrations which mechanically limit joint use. While obviously both suppuration and proliferation may end in structural disintegration, it is equally as obvious that the treatment of two extremes of joint pathology will be radically different.

In the joint with unorganized inflammation, what treatment is the most efficacious? The systemic manifestations of suppuration and local discomfort will automatically result in symptomatic treatment of rest and sedation. The etiology is clearly infectious, usually from an easily demonstrable focus. From the standpoint of this discussion, in our list of five methods of treatment, sulfanilamide or its derivatives is obviously indicated. Clinically, this type of case is characterized by involvement of either a single joint or scattered joints throughout the body. The larger joints are usually chiefly involved. They may be bilateral but if so, the small joints distal to them are not symmetrically involved. This asymmetry is a diagnostic feature of arthritis due to focal infection.

With the acute infection there is a marked increase in the need of vitamin C in the body and its administration should be part of the treatment supplementary to sulfanilamide. In the occasional case of this type with a relative acute onset, the disease may become chronic, and when this occurs, it is of benefit to simulate the reaction of an acute attack by means of fever and leukocytosis produced by typhoid injections. After the disease has been arrested, focal infection removal will prevent recurrences.

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Our proliferative type of arthritis is a more insidious disease, whose onset is gradual and frequently not etiologically connected with intercurrent infection. The constitutional symptoms are those of chronic disease: fatigue, weight and strength loss, anemia and low grade temperature. There is no free pus within the joints which are symmetrically involved, with the disease usually beginning in either both hands or feet. The larger joints, knees, elbows and shoulders are only involved after the hands, wrists, feet and ankles. Leukocytosis is usually absent and sulfanilamide is of little benefit, even when combined with artificial fever. Indeed, these patients frequently have an idiosyncrasy to sulfanilamide and occasional marked leukopenia results from its use in this type of case.

Because we have unknown factors other than a focus at work in the etiology of these symmetrical proliferative cases, focal removal is important only as it generally rehabilitates the patient and has no specific effect upon the arthritis *per se*. In other words, removal of enlarged infected tonsils may improve the general health and consequently give some joint improvement but is not a curative procedure. Because of the longer duration of the disease, vitamin C is often extremely depleted and beyond the ordinary dietary intake; additional feedings of 100 mg. of pure ascorbic acid two or three times daily are indicated. It will be found that, even with a dietary intake of 150 or 200 mg. it will be a matter of weeks before the blood level becomes normal, even with 300 additional milligrams of the pure drug being taken daily.

It is in this type of case, that is, chronic symmetrical atrophic arthritis with normal white blood count but rapid sedimentation, that gold is of a special value. We may say categorically that the larger the dose of gold administered, the quicker the results will be obtained. We may also say with equal lack of equivocation, that the larger the dose, the higher the mortality. I wish especially to emphasize these words, "higher mortality." Gold is a lethal drug and its administration can easily cure the disease but kill the patient. The successful and safe use of gold depends upon the proper selection of cases and careful control of the case. It should not be used in the presence of liver or kidney diseases. Symptoms of gold intoxication can develop after the first dose, no matter how small, or may not develop until later in its administration. If symptoms of gold intoxication are carefully looked for and an established uniform compound used,

fatalities should be extremely rare and serious complications unusual.

The foremost serious complications of gold administration are dermatitis, purpura, hematuria and jaundice. The dermatitis is always preceded by itching, and if the use of the drug is discontinued at the beginning of itching, the dermatitis will not be extreme. If its use is persisted in, there will develop an exfoliative dermatitis which will persist not for weeks but for months. There is no known successful treatment for the dermatitis other than time. Purpura is a relatively rare complication in my hands. If crystalline preparation of gold is used and freshly dissolved before each administration, it occurs rarely. However, the onset of purpura or bleeding gums in a patient receiving gold is an absolute contraindication for its further use. I have had four such cases, all of which responded to intramuscular liver and vitamin C. With this treatment, I feel that purpura is an alarming but not unduly serious complication.

Hematuria has occurred, in my experience, only in ankylosing spondylitis. The results of gold administration in such cases is rarely good and the hematuria so frequent that I now use gold rarely in spondylitis and only with a urinary analysis preceding each dose. I have had one case of hematuria which necessitated transfusion. He had a total of 20 mg. of gold sodium thiosulphate. Jaundice or acute atrophy of the liver is relatively rare and I feel probably occurs only when large doses are administered. I have had no personal experience with this complication. Pain in the involved joints following the first few injections of gold is a common complaint and does not warrant discontinuing it. Stomatitis may be a symptom of intoxication but with low dosage is usually mild. Iritis is also said to occur, but I have had no personal experience of this.

I feel that in these symmetrical, chronic proliferative cases of arthritis with a normal white blood count and rapid sedimentation, small doses, 10 mg. of gold thiosulphate, administered once or twice a week is a very beneficial, relatively inexpensive drug. I routinely check the hemoglobin, white blood count and urine at least every month in all cases receiving gold. I have followed the lead of English authorities who believe that vitamin C partially protects against gold intoxication and routinely administer pure vitamin C to all cases receiving gold. I do not give any set series but continue the administration of gold until the patient is well, improve-

ment ceases or the signs of intoxication occur. In four years I have had one case requiring hospitalization and no fatalities.

The third class of joint pathology, edema of the joint structures, is even more obscure in etiology than proliferation. Undoubtedly trauma plays a role and any treatment directed at joint edema, which neglects mechanical features of weight and posture, is doomed to indifferent success. These cases frequently have low vitamin C and I know of no satisfactory way of estimating this other than chemical analysis of the blood. The use of vitamin C should be restricted to those cases which have a deficient amount in their blood. Foci of infection are occasionally important contributing causes and their removal in cases of muscular rheumatism, so-called menopausal arthralgia, shoulder and back cases will occasionally give rise to dramatic improvement.

I have yet to observe dramatic improvement in cases of senile hips or Heberden's nodes following focal removal. Sulfanilamide is without effect. In the absence of rapid sedimentation rate, gold is of no clinical value. Vitamin B may occasionally be helpful in large doses. It is undoubtedly analgesic and mildly laxative.

In neuralgias, where there is supposedly edema, by improving nerve metabolism and supposedly muscular tone, vitamin B is of occasional benefit. It should be emphasized that, while vitamin B is curative in alcoholic or deficiency neuritis, most cases of neuralgia, in my experience, have a toxic or focal infection factor and satisfactory results with the use of vitamin B alone do not persist. In other words, the patient may improve for a week or two, but if vitamin B alone is used, his symptoms tend to recur and focal removal, with or without vaccine therapy, is indicated. In true neuritis intramuscular or intravenous thiamine is the drug of choice. In the more indefinite neuralgias powdered yeast by mouth to me seems preferable.

The last group of cases is that in which the symptoms arrive through structural disintegration of the joint. Recognition of this will automatically show one the futility of the use of sulfanilamide or gold. If edema is a prominent factor, focal infection removal occasionally will decrease the pain. Vitamin B, by improving muscle tone and increasing nerve control, may decrease the speed of structural disintegration, but unless the problem is dealt with orthopedically, little satisfaction will result.

In summary, I wish to emphasize that the joint changes in arthritis vary from suppurative, through organized exudate to edema, to purely mechanical disintegration of the joint. With recognition of this pathology within the joint, treatment of the individual case becomes simpler and less a matter of trial by error.

	<i>Etiology</i>	<i>Treatment</i>
Unorganized infection	Infection	Sulfanilamide Vitamin C Focal removal
Proliferation	Unknown and infection	Vitamin C Gold questionable Focal removal questionable Vaccine questionable
Edema	Minor trauma and infection	Orthopedic Focal removal questionable Vitamin B questionable Vitamin C questionable Vaccine questionable
Structural disintegration	Trauma	Orthopedic Vitamin B questionable Vitamin C questionable

Table 1.

The views expressed in this paper are tabulated in table 1. I wish to emphasize that there is no rule that will work in 100 per cent of the cases, but I believe that the opinions expressed in this table are a great deal more efficient than merely a "hit and miss" therapy.

REPORT OF THE HOUSE OF DELEGATES MEETING

One of the important functions of a state medical association journal is publication of the proceedings of the House of Delegates. Herein are presented the actions taken by this representative body which directs the activities of the organization from year to year. Depending upon the amount of work performed, and how it is presented, this report may be quite voluminous. While it might be divided and presented in two or more issues, the continuity is thus broken and its effectiveness diminished. It seems preferable, therefore, when possible to do so, to include the report in one issue.

Since this journal represents three state associations, it is expected that the official reports of the House of Delegates of each shall be included in an individual issue. This statement is presented as an explanation for the amount of space occupied by these reports in the fall issues, following the three annual meetings. While other material may be curtailed on account of the space occupied by these reports, it is believed their importance is sufficient justification for the amount of space accorded them.

STATE SECTIONS

**OREGON STATE
MEDICAL SOCIETY**



**SIXTY-SEVENTH ANNUAL
MEETING, PORTLAND,
SEPTEMBER, 1941**

MINUTES OF THE SIXTY-SIXTH ANNUAL
MEETING OF OREGON STATE MEDICAL SOCIETY
EUGENE, OREGON, SEPTEMBER 4-7, 1940

PRESIDENT'S ADDRESS

THE STATE OF MEDICINE

CHARLES E. HUNT, M. D.

EUGENE, ORE.

Never in the history of American Medicine has there been such pronounced interest and so much publicity regarding medical care and the medical profession, with so many plans proposed by so-called reformers for the improvement of the health of the nation as during the past few years. Medical unrest is a part and parcel of general world unrest and results largely from postwar economic difficulties. With the world tendency toward totalitarian government and state control versus individualism, it is not surprising that medicine should have been caught in the mesh of change and reform and that many should have arisen to advocate the taking over the practice of medicine by the state. In our own country there has been this same tendency as we have seen social security in its many forms advocated and promoted by the federal government. More and more we have seen individualism give way and the state step in to control our lives. One by one the bankers, business men, laborers, farmers and many others have been regulated and controlled by the government with more and more central power and bureaucracy taken on by government. Recently it has been the medical profession's turn to bear the criticism and attempted regulation of the government. When it was discovered that the medical profession did not propose to be regimented, persecution and ridicule was heaped upon it from high places. Thus you have seen the most noble of professions besmirched and criticised for conditions which are largely economic, and although throughout all time, the medical profession has given more liberally of its time and talent to those without means than any other group in existence, it has not done enough according to those who would like to control and regiment us.

Adequate Medical Care

The fact is that the health has never been so good in the history of the nation as now. The death rate in America has fallen in one hundred years from 27 to 11.2. This steady improvement continued right through the economic depression. We have in the U. S. 19,000 more physicians than the combined number in Great Britain, Germany, Austria, France, Denmark, Poland, Sweden, Norway, Switzerland, Belgium and Holland, although the combined population of these countries exceeds that of the U. S. by 90,000,000. It is easier in America to get medical service than food or shelter or any other commodity service.

Conscientious check by the A. M. A. throughout the nation at a cost of many thousands of dollars has shown that the heated claims of widespread neglect of the medically needy is entirely false and carried on for propaganda purposes only, by those who wish to foist state medicine on the public. The few cases uncovered where need existed were found to be individuals who were ignorant regarding where to go for medical aid. Where the needy intelligently sought medical care there was no such thing as the neglected. Of course there are groups of people who do not believe in medical care and would not accept it under any circumstances. The record of the profession in this regard is one to be proud of and is exceeded nowhere else in the world.

Problem of the Medically Indigent

The real medical problem today that demands early attention is the care of the medically indigent. No billion dollar bureaucracy to replace the private practice of medicine is necessary to meet this emergency. The entire National Health Program promised by the government is predicated on the needs of those unable to pay for medical care. This care is a dual responsibility of the profession and the government. Yet the profession is shouldering it pretty much alone.

Come what may, we as a profession will maintain the present high standard of medical service and medical education, continue to extend public health and preventive medicine and continue to practice ethical scientific medicine on its present high plane. We shall continue to protect the public against medical frauds both private and governmental, quackery in medical care and drugs, and will continue to disseminate health information as widely as possible. We shall continue, as we are now, to develop, perfect, and put into effect, plans for medical service to all groups of people.

Policies and Standards set by A. M. A.

The A. M. A. has shown singleness of purpose in maintaining the policies of their democratically constituted House of Delegates. This is shown by an increase in membership during the past five years, of over 1500 new members at a time when the organization has been subject to every attack from vicious propaganda to actual indictment. The vital policies which have been adopted in the past several years by the House of Delegates have had the unanimous vote of this most representative and democratic organization. It is to be regretted that an organization that through the years has been able to devote all its resources and energies and thought to the advancement of science and improvement of its application should now in any way be diverted from its lofty purpose in order to defend a record so outstanding.

Whatever criticisms may be aimed at the A. M. A. by those who are shocked by obvious imperfections in the

medical service available to the people as a whole, the fact remains that the profession itself voluntarily and from a sense of duty has been responsible for everything social in the practice of the healing arts today. It found American medicine in a chaotic condition with no minimum standards of education or of competence. It has worked ceaselessly for higher standards and has made the acquiring of the M. D. degree and a state license to practice, a major struggle for any man. Contemptuously defiant of slander and libel suits, organized medicine has mercilessly exposed the harm of healing cults and quackery and fought vigorously against nostrums. Through its local units it has rigorously punished by censure and by expulsion, violation of medical ethics. By cold experimentation in the laboratory, it has established the value of new remedies. Now it is criticised for not having done enough.

Function of Government in Medicine

As a profession we believe that the proper function of the government under a democratic system is protection of its people from hazards of health, promotion of standards of living which are favorable to health and leaving to a free people the free choice of medical care when illness comes, unless indigence prevents. We believe the most profitable effort on the part of the government would be in the prevention of disease. Let government fight disease at its source, protect the well from hazards of contact, insure healthful means of living such as proper food, good housing and adequate clothing, eliminate slum conditions and offer wholesome recreation. Instruct the masses to avoid the dangers which go with ignorance, educate them to take advantage early of means now available for medical care and protect them from unnecessary accidents.

Let the government concentrate its efforts on these sources of mortality and morbidity and the cause of life, health and happiness will be advanced countless times more than it can be furthered by placing the sick under any form of political control. Amateur health philosophers who know nothing about the practice of medicine, and who know about mass medicine only from superficial observation of foreign systems, none of which have improved the quality of medical service or have produced anything to compare with our present system in the U. S., can add nothing to a situation which the combined medical profession has been devoted to diligently for years.

Compulsory Sickness Insurance Not a Solution

Compulsory sickness insurance had its origin in Europe as far back as 1883, when Bismarck gave it to the people as a political sop. It was purely a political expedient for the purpose of gaining bureaucratic control of medical services and the medical profession for the purpose of producing more governmental jobs and more political support for the party in power. Without going into details as to the workings of the system, it was the old bait to the public of getting something for nothing. The worker did not realize that he paid the cost in any event in taxes, and received an inferior grade of service. Gradually the system spread to other countries and Great Britain's Lloyd George put in effect the same system in 1911 for the same political purposes. It was fought vigorously by the British medical profession. In not a single country where this system is in force does the type of medical service even approximate that found in the U. S. where free enterprise exists. Mortality rates are higher for 32 out of 42 of the leading diseases in

Great Britain than in the U. S., where no such system has been in effect. In Germany the scheme grew until there was one administrator for every 200 insured and two to three bureaucrats for each doctor serving the insured.

Call for Medical Preparedness is Being Answered

When the U. S. entered the last world war, the A. M. A. offered its services to the federal government in every capacity. More than 30,000 doctors were commissioned in the army and in addition more than 3,000 in the navy. State and county organizations were supplied with detailed information concerning the work of physicians in their own communities and with those available for civil and industrial practice. The House of Delegates selected a special war committee to cooperate with all agencies in fulfilling to the utmost the medical needs of the organization. At the time of the armistice, 26 per cent of the physicians of the country were medical officers in the service. During this process whole counties were depleted of doctors. Many medical schools were almost put out of business because the best teachers left for military duty. We should not repeat this mistake.

Future Program

Our program of postgraduate study should be extended to meet the needs of every member of the society. The members should decide what type of study is most useful to the majority of the membership. We should seriously and rapidly do everything possible to advance this important program.

In the field of public relations we have not yet scratched the surface. This is a most important field and a great deal of intelligence and planning, together with considerable financing, is necessary to make any success along the lines desired.

We should support our Bureau of Medical Economics which is doing very valuable work in ironing out our economic difficulties and cementing the profession together. We should support to the full, the program of the National Physicians' Committee as they are fighting our battle for us. We should support the splendid program of the Auxiliary. These faithful wives are serving organized medicine and doing work which we could not ourselves do.

In closing, I wish to thank the members of the society for the privilege I have been given of serving in this capacity the past year. It has given me an insight into the problems of organized medicine which I would have obtained in no other way. It has given me a wonderful fellowship with a group of devoted workers in the profession that I value very highly. I would that every member of the society could have the same experience that has been given me. I am sure it would be a revelation and an inspiration if this could be brought about.

HOUSE OF DELEGATES

FIRST SESSION

Wednesday, September 4

The opening session of the House of Delegates was called to order by President Charles E. Hunt at 7:45 a.m., in the Palm Room of the Osburn Hotel.

On roll-call, the following members of the Council were present:

Charles E. Hunt, President; Charles E. Sears, Past-President; George E. Henton, First Vice-President; Morris L. Bridgeman, Secretary; Councilors G. H. Strickland, L. M. Spalding, C. W. McCain, and L. S. Kent.

The following delegates were present: C. J. Bartlett of Baker, Baker County Medical Society; N. L. Tartar of Corvallis, Benton County Medical Society; Allen M. Boyden of Astoria, Clatsop County Medical Society; George I. Wright of Klamath Falls, Klamath County Medical Society; Ronald C. Romig and Carl H. Phetteplace of Eugene, Lane County Medical Society; M. M. Woodworth of Albany, Linn County Medical Society; Roy A. Payne, W. F. Patrick, Collie F. Cathey, Aubrey M. Davis and Frank R. Mount of Portland, Multnomah County Medical Society; and Burton A. Myers of Salem, Polk-Yamhill-Marion Medical Society.

E. H. McLean of Oregon City, E. L. Zimmerman of Eugene, A. G. Bettman, Leo S. Lucas and Edward W. Abrams of Portland, Alfred C. Kinney of Seaview, Washington, the executive secretary, and the assistant to the executive secretary were also present.

President Hunt announced the appointment of the following Committee on Credentials: Morris L. Bridgeman, Chairman; W. F. Patrick, and M. M. Woodworth.

Morris L. Bridgeman, Chairman of the Committee on Credentials, reported that, in the absence of the regularly elected delegates from certain component societies, certain members were present and eligible to be seated.

E. H. McLean of Oregon City, Clackamas County Medical Society; and A. G. Bettman and Leo S. Lucas of Portland, Multnomah County Medical Society, were seated by vote of the House.

It was voted that reading of the minutes of the last annual session be dispensed with and that the minutes be adopted as published in the February, 1940, issue of NORTHWEST MEDICINE.

COMMITTEE REPORTS

Committee on Annual Session

The annual session at Eugene, September 4-7, was the problem for the committee. As devised by the House of Delegates, the idea of postgraduate study was continued at this meeting. The number of local papers were cut down and the meetings condensed into three days so that the annual banquet closes the scientific session and only the business meeting remains for the following day.

The Committee on Postgraduate Education has met with us and has helped both in the selection of men and the arrangement. It is felt that all members of the Society should feel free to consult with this committee and that suggestions be offered regarding outstanding speakers. This committee welcomes ideas, and criticisms, for after all the meeting is planned to please the profession. The main ideas that have been the policy in selecting papers and speakers are:

1. The subject should be of special interest to the general practitioner.

2. The speaker should be able to deliver his message in an interesting and pleasing style.

3. Various branches of the profession should be represented, medicine and surgery regularly, with allied specialties, such as obstetrics, allergy, endocrinology, nose and throat, pediatrics, dermatology, etc., rotated in various years.

During the five years in charge of the Committee on Annual Session the following policies have been adopted:

1. Commercial exhibitors cannot show anything but Council accepted goods.

This has been followed and proven successful. Several exhibitors have been refused space on this policy but it is felt that the general standards of exhibitors have been raised.

2. Increased allotment for annual session.

It is felt that the annual session is an important part of the state's activities and that worthwhile scientific sessions should be offered. This can be done only at considerable expense.

3. Presentation of papers by local men has been encouraged and especially by men not residing in Portland. The policy of not allowing members to appear on programs who appeared the previous year has been strictly adhered to.

From five years of planning meetings, it appears that the meetings most desirable to the profession are those in which the following points are brought out:

1. Four good outstanding men from outside the state to give three talks and one round-table each.

2. Ten or more local papers by members of the State Society.

3. A three-day concentrated scientific session followed by business and pleasure.

4. A suitable place to house the scientific session and exhibits.

To fulfill these facts it is necessary that speakers be engaged early, that the profession be notified early so they can prepare papers, and that the place of meeting be chosen with the view of proper facilities to care for members, visitors and proper facilities to house the exhibitors, scientific session, round-tables, annual banquet, House of Delegates, etc.

As a final recommendation, I would feel that the policy of allowing the secretary to lead the Committee on Annual Session and to have the power of selecting and arranging the program be continued. In one man's hands final decisions can be made that would be too unwieldy in the hands of a large group or committee.

Experience has taught that few places in Oregon afford the proper setup for meetings. A policy similar to that of the American Medical Association should be adopted in that, before a place is selected for annual session, it must have suitable facilities. Gearhart has always been successful and many of the larger cities of Oregon are suitable. A plan of alternating from a larger city of Oregon (not Portland) to Gearhart has been suggested.

As chairman, I wish to thank the members of the committee for their help and to thank the local committees of Eugene doctors who helped and were most valuable in local arrangements. Thanks to various doctors who advised with constructive criticism, and finally to the office force who really did the work.

MORRIS L. BRIDGEMAN,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers and that Dr. Bridgeman and the committee be commended for their splendid work.

Committee on Publication

The work of the Committee on Publication has been a continuing process over a period of two or three years, in the matter of reorganizing the form and appearance of NORTHWEST MEDICINE and trying to get more definite representation of local activities in the publication. This rearrangement of material, with the view of greater attractiveness and better placing of articles in relation of their interest appeal, came to a head at the beginning of the present fiscal year.

Since bringing this work to its conclusion, there has been little need for further activity of the committee as it has seemed desirable to await the reaction to and development of the rather extensive changes made.

We wish again, as last year, to acknowledge with the greatest appreciation, the full cooperation of Dr. Clarence A. Smith, editor in chief, and the editorial staff of NORTHWEST MEDICINE in making these alterations.

EDWARD H. MCLEAN,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Advisory Committee to the Woman's Auxiliary

The committee has not found it necessary to assemble at any time during the year's incumbency. Three main questions have been submitted to the Committee, and where there was any possibility of variation of opinion, your chairman has written to the other members of the committee asking for advice before submitting an answer.

Briefly, the questions were: (1) Question by Mrs. Joseph A. Pettit regarding methods to be followed in obtaining members for the Auxiliary; (2) Question by Mrs. Charles E. Sears regarding membership of the Auxiliary of the State Society in the Federation of Women's Organizations; and

(3) question by Mrs. W. F. Patrick, Mrs. J. M. Short, and Mrs. George E. Henton, regarding *Hygeia* activities: (a) would it be proper to ask Dr. Thompson, head of the Maternal and Child Health Department of the State of Oregon, to financially or otherwise aid us in placing *Hygeia* subscriptions? (b) do you think it advisable to continue furnishing free copies of *Hygeia* to public schools and libraries? If so, how shall the project be financed for this year?

ROY A. PAYNE,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Cancer Study

The principal work of this committee during the past year has been to crystalize the plans and supervise the organization of the Oregon branch of the Women's Field Army, the subsidiary of the American Society for the Control of Cancer.

After a long period of negotiations, the committee was able to contact and by the advice of the Council appoint Mrs. Frances Hosford as State Commander of the Women's Field Army. After this appointment was made and conferences held with the officers of the American Society for the Control of Cancer, the campaign moved swiftly.

With the splendid assistance and cooperation of the Women's Auxilliary, the program of public education was extended throughout the state. Cancer Week in Portland saw the same activities as were carried on throughout the nation with assistance of several advisory boards, including a large number of substantial Portland institutions, and with some considerable measure of success.

From March 12 until May 11, 1940, contributions reached the sum of \$1,598.05. Mrs. Hosford has made an extensive trip over the entire state, through the courtesy of the president of the Women's Auxilliary, and contact made in virtually all counties of the state. She is ready to launch her fall campaign following the next meeting of this committee. This work has been purely educational and under the constant surveillance, advice and approval of this committee. The work has been free from criticism and no attempt on the part of lay individuals to act other than under the direction and advice of this committee.

CHARLES E. SEARS,
Chairman

At the conclusion of this report, Dr. Sears spoke briefly, pointing out the increase in the public's knowledge of cancer as a result of the activities of the Woman's Field Army of the American Society for the Control of Cancer, and emphasizing the great need for postgraduate study for physicians on the diagnosis and treatment of cancer.

It was voted that the report of the Committee on Cancer Study be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Public Policy

As this has not been a legislative year, the committee has not engaged in any extensive activity. Nevertheless, consideration has been given to several measures which should be sponsored at the coming session of the State Legislature. Among these is an amendment to the existing Hospital Lien Law to give physicians and nurses the same right of lien for services against monies collected in damages by persons injured in accidents from persons responsible for their injuries. A bill to accomplish this purpose was introduced at the 1939 Session of the State Legislature but, because of the violent opposition of certain members antagonistic to the medical profession, was withdrawn in order that other pending medical legislation might not be jeopardized.

The committee has been requested to sponsor legislation designed to strengthen the position of medical service bureaus in collecting funds for medical care deducted from the wages of employees.

The committee has been informed that the Oregon Association of Hospitals will again sponsor a measure to create a state fund to reimburse hospitals for services

rendered to persons injured in automobile accidents who are unable to pay. This fund would be created by adding an additional 50 cents to the present motor vehicle operators' license fee. A bill to effect this end was introduced at the 1939 State Legislature. The bill was passed by the House of Representatives, but was defeated in the Senate. The committee recommends that the Society support this legislation.

A special committee has been studying the amendment to the Teachers' Certification Law made by the 1939 State Legislature, which requires every teacher to obtain a certificate of health. This committee has been in communication with the various teachers' organizations, with a view to proposing changes to eliminate the vagueness and impractical character of the existing enactment. We recommend that the changes proposed by this committee receive the support of the Society.

The committee has been in communication with the Interim Committee on the Workmen's Compensation Law, appointed by Governor Sprague, pursuant to a resolution adopted by the 1939 State Legislature. We have requested the Committee on State Industrial Affairs to prepare data on the medical phases of workmen's compensation and arrange for the presentation of this material to the Interim Committee.

RICHARD B. ADAMS,
Chairman

George E. Henton stated that the activities of the Committee on Public Policy and the State Board of Health with respect to public health legislation should be coordinated.

Frank R. Mount, President of the State Board of Health, stated that it was the intention of the Board to request an early meeting with the Council, at which representatives of the Board might discuss with the Council various public health measures that may be introduced at the 1941 Session of the State Legislature.

N. L. Tartar expressed the opinion that the State Board of Health and Oregon State Medical Society should always cooperate in matters of public health legislation, as the general public has the impression that physicians participate in the formulation of all bills relating to public health or medical practice. He stated that the State Health Officer owes it to the medical profession to submit all proposed bills of a public health nature to the Society before they are presented to the State Legislature.

It was voted that the report of the Committee on Public Policy be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Medical Education and Hospitals

A representative group of your committee met to discuss the needs of the Oregon State Hospital at Salem. Our first meeting was held in Portland, at which time Dr. Evans, Superintendent of the hospital, was present. D. C. Burkes, C. O. Sturdevant and your chairman were also present.

Dr. Evans requested that we particularly consider recommendations pertaining to the enlargement of the hospital by an additional building to house 350 patients; associated with this to be the other facilities necessary to meet the needs of such an enlargement. He pointed out that at the present time facilities are estimated to handle 2100 patients, whereas there are at present an estimated 2700 occupants.

Your committee later visited and inspected the Oregon State Hospital at Salem. Our observations of the buildings elicited the fact that the oldest unit is unquestionably antiquated and offers very inadequate, as well as poor facilities for housing and caring for its occupants. This building accommodates an estimated three to four hundred or possibly five hundred patients.

With the exception of this oldest unit we found a number of other units to be well constructed of concrete and fire-proof; exceptionally well cared for, sanitary and excellently planned regarding light, air and general sanitation. However, it was evident that these buildings were overcrowded. In the buildings noted as well-equipped and cared for, probably the most outstanding observation was the orderly character

of the great number of inmates, and the realization that the organization as a whole is well and efficiently handled.

As to recommendations, your committee feels that there is a definite need of more hospital space, and that the request for additional building and equipment for 350 beds is a conservative estimate, and scarcely enough to house the existing patient load, to say nothing of the additional patients who will be added during the coming years.

Your committee was also impressed with the probable advantage that could be obtained, if an attempt at redistribution of patients was studied. It seemed on our casual observation that a large number of inmates could be classed as individuals below par physically and mentally as a result of old age, and who were in need of care for their general well-being, but who would scarcely be considered as definitely insane and requiring complete incarceration. In other words, these inmates could be housed where the stigmata of insanity are not applicable, and could well be housed in hospitals designated as convalescent rest institutions.

This committee felt that the existing older building is so unsanitary and definitely unsuitable for housing patients that it would be advisable to have it removed, and to see constructed a modern type of hospital.

The committee, in considering the present number of physicians and nurses supplying the needs of the inmates, realizes that this number would be totally inadequate, if the inmates were of a type that required more or less acute care. The committee, however, feels that there is a very definite need for an addition of psychiatrists to the personnel and recommends that two trained psychiatrists be added to the present staff. It seemed to the committee from its observation that even the present small staff are not in all instances giving their entire time to the hospital duties.

C. H. MANLOVE,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Malpractice

The work of the committee during the past year has been to carry out its established duties of reviewing the medical facts in connection with claims and suits alleging malpractice by our members.

The number of claims and suits continued at the relatively high level of the period covered by our last report. While a considerable number of claims are dropped or closed without payment, the number of claims filed, almost all of which are wholly without merit, is ample evidence of increasing "claim consciousness" among a large number of patients.

The following table provides a comparative statement of the number of claims and suits which came before the committee during the period covered by our report of last year and that of this year:

	Period Aug. 1, 1938 to Sept. 1, 1939 13 Months	Period Sept. 1, 1939 to Sept. 1, 1940 12 Months
<i>Claims—No Suit Filed</i>		
Pending at beginning of period.....	2	7
Filed during period.....	23	21
Closed without payment.....	15	9
Settled for nominal amount.....	3	2
Pending at close of period.....	7	17
<i>Suits</i>		
Pending at beginning of period.....	4	7
Filed during period.....	12	11
Nonsuits for physician-defendant.....	4	2
Jury verdicts for physician-defendant.....	5	4
Jury verdicts for plaintiff.....	0	1
Pending at close of period.....	7	11

It will be observed that settlement was made in two cases during the period under review.

Seven suits came to trial during the period. In six of these the position of the physician-defendants was upheld, three by nonsuits granted by the trial judge and three by jury verdicts. In the remaining case, the jury rendered a verdict for the patient-plaintiff.

OTIS F. AKIN
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

At 9:15 a.m. it was voted to adjourn until 7:00 a.m. on Thursday.

SECOND SESSION

Thursday, September 5

The House of Delegates was called to order by President Charles E. Hunt at 7:30 a.m., in the Palm Room of the Osburn Hotel.

On roll-call the following members of the Council were present:

Charles E. Hunt, President; Charles E. Sears, Past-President; Karl H. Martzloff, President-Elect; George E. Henton, First Vice-President; Morris L. Bridgeman, Secretary; J. E. Buckley, Treasurer; Councilors G. H. Strickland, L. M. Spalding, C. W. McCain and L. S. Kent.

The following delegates were present:

C. J. Bartlett of Baker, Baker County Medical Society; J. C. Vandevent of Bend, Central Oregon Medical Society; E. H. McLean of Oregon City, Clackamas County Medical Society; Allen M. Boyden of Astoria, Clatsop County Medical Society; Donald M. Long of Marshfield, Coos and Curry County Medical Society; A. E. Dodson of Medford, Jackson County Medical Society; E. D. Lamb of Klamath Falls, Klamath County Medical Society; Carl H. Phetteplace and Ronald C. Romig of Eugene, Lane County Medical Society; W. J. Weese of Ontario, Malheur County Medical Society; Carl G. Ashley, Richard B. Adams, A. G. Bettman, F. H. Dammasch, Aubrey M. Davis, John R. Montague, Frank R. Mount, Roy A. Payne and W. F. Patrick of Portland, Multnomah County Medical Society; Burton A. Myers and Carl W. Emmons of Salem, Polk-Yamhill-Marion Medical Society, and J. P. Brennan of Pendleton, Umatilla County Medical Society.

William T. Johnson of Corvallis, Raymond M. McKeown of Marshfield, J. C. Hayes of Medford, G. I. Wright of Klamath Falls, G. I. Hurley, R. C. Faust and E. L. Zimmerman of Eugene, Thompson Coberth of The Dalles, Robert L. Benson, H. L. Blosser, Warren W. Hale, Stanley Lamb, D. S. Swart and Neil Black of Portland, Clarence A. Smith of Seattle, editor of NORTHWEST MEDICINE, the executive secretary, and the assistant to the executive secretary were also present.

Morris L. Bridgeman, Chairman of the Committee on Credentials, reported that, in the absence of the regularly elected delegates from certain component societies, certain members were present and eligible to be seated.

William T. Johnson of Corvallis, Benton County Medical Society; Thompson Coberth of The Dalles, Mid-Columbia Medical Society and Robert L. Benson, H. L. Blosser, Warren W. Hale, Stanley Lamb and D. S. Swart of Portland, Multnomah County Medical Society; were seated by vote of the House.

President Hunt announced the appointment of the following committees:

Reference Committee on Reports of Committees and Officers: Richard B. Adams, chairman; W. J. Weese and J. C. Hayes.

Resolutions: Frank R. Mount, chairman; Burton A. Myers and C. J. Bartlett.

President Hunt announced it had been suggested that the House have a Reference Committee on Medical Economics, to which all matters introduced that relate to medical economics be referred. He stated that, if the House had no objection, he would appoint such a committee. No objection was made. President Hunt then announced the appointment of the following committee: J. E. Buckley, chairman; Carl H. Phetteplace and Roy A. Payne.

President Hunt announced that the Committee on Nominations was to be elected by the House. John R. Montague, E. H. McLean, J. P. Brennan, Thompson Coberth

and Charles E. Sears were nominated. No further nominations were made. Thereupon it was voted that these nominees be elected.

President Hunt called upon Robert L. Benson for a discussion of the National Physicians' Committee for the Extension of Medical Service.

Dr. Benson stated that the purpose of the National Physicians' Committee is to defend free enterprise in medicine. He stated that the Council had approved the program of the Committee and approved the organization of an Oregon Physicians' Committee for the Extension of Medical Service, to be independent of the Society, but to have its approval. He requested the House to approve the existing National Physicians' Committee for the Extension of Medical Service and authorize the organization of an Oregon Committee.

Karl H. Martzloff stated that he was under the impression that the American Medical Association, as a matter of policy, had not officially approved the National Physicians' Committee and requested information as to the position of the Oregon State Medical Society in this regard.

George E. Benton stated that recently the Council had thoroughly discussed the organization and activities of the National Physicians' Committee from all angles and that the Council had approved the organization and its activities.

It was voted that the program of the National Physicians' Committee for the Extension of Medical Service be approved and that Dr. Benson be authorized to appoint a nominating committee to select officers for an Oregon Physicians' Committee for the Extension Medical Service.

Dr. Benson announced the appointment of the following committee: George E. Henton, chairman; Allan M. Boyden and L. S. Kent.

Committee on State Industrial Affairs

The Committee on State Industrial Affairs had only one problem referred to it and this was from some of the members of the Mid-Columbia Medical Society and through the Council.

The question was concerning the transferring of contracts to hospital associations by the State Industrial Accident Commission. Your chairman met with the Council and inasmuch as the men present had experience with this problem, and inasmuch as the law, as is now written, permits the State Industrial Accident Commission to carry out this practice and inasmuch as this practice results in a service to the member and is often demanded by him, it was decided that this problem be turned over to the Committee on Public Policy with the view of changing the law so as to outlaw this practice.

It would appear that relationship between physicians of the state and the State Industrial Accident Commission has been very cordial. It has long been the belief of your chairman that many of the problems between an injured employee and the Commission could be solved by cooperation between the State Industrial Accident Commission and the physician in charge. I have special reference to the practice of calling cases to Portland for special examination, and during their stay in Portland they become antagonized and are frequently solicited by individuals who seek to gain by promoting legal action between the injured man and the Commission.

THOMPSON COBERTH,
Chairman

George E. Henton called attention to the existence of the Interim Committee for the Study of Workmen's Compensation Law, recently appointed by the Governor, and stated that arrangements were being made for a private hearing before this Committee, at which representatives

of the Society will present the viewpoint of the medical profession concerning the Workmen's Compensation Act.

Karl H. Martzloff inquired as to why a physician was not appointed to the Interim Committee. The executive secretary stated that the Interim Committee was created by a resolution of the State Legislature, which provided that the Committee should consist of three representatives of the employers, three representatives of labor and one representative of the public. Dr. Martzloff recommended that the House go on record as being of the definite opinion that the medical profession should have a representative on this Interim Committee.

Richard B. Adams, Chairman of the Committee on Public Policy, stated that the Interim Committee has already met and has promised to grant representatives of the Society a private hearing in the near future. He pointed out that the vital interest of the physician in the operation of the Workmen's Compensation Law lies in the fact that, if the State Industrial Accident Fund becomes financially insecure, the medical profession must bear the burden through a reduction in compensation for their services. He requested those interested to send to him in writing any ideas they have concerning defects in the present law or its administration, so that the Committee on Public Policy may prepare, in written form, factual data to present to the Interim Committee. He expressed the opinion that the Interim Committee would incorporate a written recommendation from the medical profession in its report.

It was voted that the report of the Committee on State Industrial Affairs be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Maternal Welfare

Your Committee on Maternal Welfare has been actively functioning throughout the year. Through the cooperation of the County Chairmen of the Maternal Welfare Committee, a definite program has been carried out in the majority of the counties, which has consisted of obstetric case reports, meetings devoted to discussions of obstetrics and a study by their committees of maternal deaths occurring in their districts.

This educational program, which was inaugurated in 1935, has resulted in a reduction of maternal mortality from 5.5 per thousand in 1935 to 2.6 per thousand in 1939. The law which was passed last year regulating hospitals and homes handling obstetric cases, has brought about marked improvement in the management of maternity cases.

Last year we had the opportunity to conduct refresher courses in different cities throughout the state and are planning to continue this form of postgraduate education. We solicit the cooperation of the Oregon State Medical Society in helping us carry out this program.

We are indebted to G. D. Carlyle Thompson and Harold M. Erickson, Directors of the Division of Maternal and Child Health, to Frederick D. Stricker of the State Board of Health, to Dr. Adair of the American Committee on Maternal Welfare and to Dr. Daily of the United States Public Health Service, for their cooperation in furthering our program.

RAYMOND E. WATKINS,
Chairman

L. S. Kent reported that a meeting of the Committee on Maternal Welfare and representatives of the committee on maternal welfare of the component societies was held on the evening of September 4, at which time it was voted that a permanent organization be formed to cooperate with the State Society's Committee and that a central committee be appointed to study and report concerning maternal deaths in the state.

It was voted that the report of the Committee on Maternal Welfare be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Revision of Constitution and By-Laws

At the suggestion of a committee representing the Oregon Health Officers' Association, an amendment is offered to Chapter 1, Section 5 of the By-Laws which will delete subsection (c) which reads: "Such persons or physicians shall not be eligible to active membership in this Society." This amendment would give fulltime governmental employees the option of selecting the status in the Society they desire. In other words, they may, if they choose, become active members and pay full dues, or may remain associate members with the smaller fee attendant thereto.

It was further suggested that the present status of the Executive Committee was unsatisfactory and the following amendment is offered to reorganize this body after discussion by the Council:

To amend Chapter V, Section 6 of the By-Laws of Oregon State Medical Society to read as follows:

a. The president, first vice-president, retiring president, secretary, president-elect and three other members of the Council shall form an Executive Committee. The president-elect shall be an ex-officio member, with no power to vote.

b. The Council shall select the three members to serve on the Executive Committee, each to serve for a period of three years, and until their successors are selected and qualified.

c. Each committee, agency or subsidiary organization seeking financial support from this Society shall present to the Executive Committee not more than sixty days after the annual session, a proposed program of activities for the ensuing year, with an estimate of the amount of money required to carry on its proposed program. The Executive Committee shall thereupon prepare a complete annual budget for the ensuing year and present the same to the Council for its consideration.

d. The Executive Committee shall also have power to direct the activities of the headquarters office, approve the employment of personnel, approve necessary emergency expenditures, care for any other emergency which may arise during the interim between meetings of the Council, and perform such other duties as may be required of it by the Council or the House of Delegates. A report of the interim activities shall be made by the committee at the next regular meeting of the Council.

e. A quorum of the Executive Committee shall consist of three members. A majority of such quorum shall be sufficient to take any action which the committee is qualified to take.

JOHN R. MONTAGUE,
Chairman

L. S. Kent suggested that, if the proposed amendment giving physicians engaged in full-time governmental employment, full-time scientific work, or full-time teaching, the option of becoming active or associate members was adopted, the component societies be notified of this change, in order that they may consider a similar amendment to their respective by-laws.

It was voted that the amendments to the By-Laws proposed in this report be laid upon the table for at least one day.

Report of Treasurer

Your Treasurer presents the following report based on the audit report covering our first six months' accounting period from January 1, 1940, to June 30, 1940, submitted by Mr. C. T. Kronenberg, certified public accountant.

The detailed report of Mr. Kronenberg's semiannual audit will be submitted with this report.

GENERAL FUND

Receipts from members' dues for the six months period totalled \$12,896.25 as against \$12,588.68 for the first six months of 1939.

The current cash balance in the General Fund on June

30, 1940, was \$3,612.08, with savings deposits of \$1,331.24, making a total of \$4,943.32 in current funds.

Accounts payable, including current expense items and turnovers of local society dues, were \$1,100.60, leaving a net cash balance of \$3,842.72.

CONTINGENCY FUND

This fund, which was formerly designated as the Medical Defense Fund, was created by an annual allotment of \$3.00 from the annual dues of each active member. In 1933, this allotment was discontinued so that the Contingency Fund is now augmented solely by interest received from invested securities and savings deposits.

The Contingency Fund earned \$419.01 during the six months period. No disbursements from the fund were made. The cash balance in the savings account on June 30, 1940, was \$2,416.03.

INVESTED FUNDS

No additions were made to the invested funds of the Society during the past year.

The invested funds of the General Fund, on June 30, 1940, consisted of securities which cost \$8,663.74. The market value of these securities on July 24, 1940, was \$7,660.95.

The invested funds of the Contingency Fund on June 30, 1940, consisted of securities costing \$20,872.64. The market value of these securities on July 24, 1940, was \$19,902.98.

BUREAU OF MEDICAL ECONOMICS

Separate accounting records were established for the Bureau of Medical Economics.

Receipts during the six months period were \$2,999.80, of which \$1,499.80 was received from the affiliated medical service bureaus and \$1,500.00 from the General Fund of the Society. Disbursements totalled \$2,466.50, leaving a net cash balance, on June 30, 1940, of \$533.30.

J. E. BUCKLEY,
Treasurer

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Report of Secretary

Your secretary presents the following report of the principal activities of the Society during the past year. The report also includes a summary of the more important actions taken by the Council and its Executive Committee.

Last year, for the first time in the history of the Society, we were able to report a membership in excess of 800, the exact figure being 829. During the past year, a further modest increase was made, bringing the total membership to 856. This growth is in considerable part due to the increasing interest in organized medicine on the part of young physicians, most of whom are now becoming members shortly after entering practice. Another factor is the increasing tendency among physicians in governmental service, particularly those engaged in public health work, to affiliate themselves with the Society.

The following table shows the status of our membership on September 1, 1940:

	Owing 1939	Owing 1940	Paid 1940	Total
Active	7	55	653	715
Junior		3	51	54
Associate		5	49	54
Life	3	1	12	16
Honorary				17
Total.....	10	64	765	856

The Council and its Executive Committee have given assiduous consideration to many important matters. The Council held eleven meetings during the year and the Executive Committee also met frequently to consider problems requiring immediate action between Council meetings. Especially noteworthy have been the sacrifices made by the down-state members of the Executive Committee in attending meetings on short notice, often in very inclement weather.

The following summary shows the action taken by the Council on the principal questions before it for consideration during the past year:

1. Selected Eugene as the place of the annual session.

2. Requested the Oregon State Board of Medical Examiners to take the necessary steps to clarify the confusion which now exists with respect to the scope of practice of osteopaths.

3. Proposed a survey of several typical osteopathic and medical schools by a committee to be composed of one representative of the medical profession (to be chosen by this Society), one representative of the osteopathic profession (to be chosen by the Oregon Osteopathic Association), and a layman with scientific training (to be chosen by the Chancellor of the Oregon State System of Higher Education, or other disinterested person). This proposal was rejected by the Oregon Osteopathic Association.

4. Adopted an amendment to the Statement of Policy and Program for the Medical Care of Low-Wage Industrial Groups, adopted by the House of Delegates at the 1938 Session, to provide for an Executive Committee of the Bureau of Medical Economics to consist of three members of the Council and three members from among the representatives of approved local organizations affiliated with the Bureau, this committee to act as an interim committee between meetings of the Bureau.

5. Adopted a series of Recommended Policies and Procedures for Providing Medical Care to Low-Wage Industrial Groups to guide approved local organizations affiliated with the Bureau of Medical Economics.

6. Authorized the President to appoint five representatives to attend the Third Annual Session of the Pacific States Medical Executives Conference and authorized the payment of the expenses of these representatives.

7. Authorized the appointment of a Subcommittee on School Health to cooperate with other interested agencies in the coordination of health, physical education and recreational activities, under the direction of the Committee on Public Relations.

8. Approved a preliminary survey of the medical problems of Farm Security Administration clients in Malheur County, to be made in cooperation with Malheur County Medical Society, with the understanding that any tentative plan developed from this survey be submitted for the approval of the Committee on Charitable Medical Care and the Council before it is placed in operation.

9. Approved the campaign of the American Academy of Pediatrics to prevent children coming in contact with adults with communicable diseases and authorized the Committee on School Health to cooperate in this movement, with the understanding that pamphlets and other educational material used in this campaign be submitted to the Council for its approval before they are used.

10. Authorized the payment of the travelling expenses of representatives of approved local organizations affiliated with the Bureau of Medical Economics from funds available in the budget of the Bureau.

11. Authorized the preparation of a statement to be sent to the entire membership interpreting the Principles of Medical Ethics in relation to medical insurance plans.

12. Authorized the President to serve as the official representative of the Society at the Annual Conference of Secretaries of Constituent State Medical Associations, the Secretary being unable to attend.

13. Approved a tentative budget of \$4,850 for the Bureau of Medical Economics, the funds to be raised by a contribution by each approved local organization based upon the payment of \$5 for each of its affiliated physicians, provided each is a member of the Oregon State Medical Society, or otherwise the approved local organization to make a contribution based on $\frac{1}{2}$ of 1 per cent of its gross income during 1939; the Oregon State Medical Society to make a contribution not to exceed 50 per cent of the total budget.

14. Authorized the Committee on Public Relations to publish a statement in the newspapers of the state setting forth the attitude of the Society toward hospital associations and related plans of medical care.

15. Authorized the sending to each member of a statement setting forth the policies of the Society with respect to hospital associations and related plans of medical care, including the new hospital and medical security contracts of the National Hospital Association.

16. Approved the "Minimum Standards for the Treat-

ment of Syphilis" proposed by the Oregon State Board of Health.

17. Authorized the Committee on Publication to transmit to NORTHWEST MEDICINE a number of recommendations designed to improve the "State Sections" feature of the journal.

18. Held a joint meeting with representatives of the Oregon Association of Hospitals and authorized the appointment of a committee to join with a similar committee of that Association in studying plans of group hospitalization and, if possible, in developing workable plans adaptable to Oregon.

19. Authorized the appointment of a committee to cooperate with the Jurisprudence Committee of the Oregon Casualty Adjusters' Association in adjusting disputes arising between physicians and health and accident insurance companies.

20. Voted to employ Mr. John R. Caughell as assistant to the executive secretary in connection with the Bureau of Medical Economics.

21. Authorized the President to appoint a committee to supervise the activities of the assistant to the executive secretary.

22. Authorized the sending of a communication to all the members urging them to contribute to the National Physicians' Committee for the Extension of Medical Service.

23. Authorized the publication of a pamphlet outlining the services available to low-wage groups through the approved medical service bureaus affiliated with the Bureau of Medical Economics.

24. Adopted a Fee Schedule to be Applied in Payment for Services rendered to Low-Wage Industrial Workers Under Special Plans of Medical Care offered by Approved Local Organizations Affiliated with the Bureau of Medical Economics.

25. Approved the publication of the proceedings of the 1939 Session as supplement to NORTHWEST MEDICINE, with the understanding that their publication in this form would involve no expense to the Society.

26. Approved the appointment of Mrs. Frances C. Hosford of Portland as the Commander for Oregon of the Woman's Field Army of the American Society for the Control of Cancer.

27. Authorized the Physicians and Surgeons Hospital Association to enter into negotiations with the Oregon state police to cover its employees throughout the state, with the understanding that the Association will submit full information concerning the proposed contract and obtain the approval of the Council before the agreement is consummated.

28. Adopted an amendment to the Statement of Policy and Program for the Medical Care of Low-Wage Industrial Groups, adopted by the House of Delegates at the 1938 Session, by defining a "local organization" as an organization in which any physician practicing in the community, who is a member of his local medical society and the Oregon State Medical Society, is eligible to membership, with equal share in stock ownership, or other proprietary interest, from the date of this amendment, and providing that only one such local organization shall be approved by each community.

29. Reaffirmed the policy of the Society which contemplates the ultimate elimination of drugs from approved plans of prepaid medical care and recommended that each approved local medical service bureau adopt the proposed agreement of the Oregon State Pharmaceutical Association in connection with supplying drugs to subscribers, provided such action is feasible under the conditions existing in its particular community.

30. Authorized the sponsoring of a luncheon for members of the American Association of Medical Librarians in connection with their annual meeting in Portland.

31. Approved suggestions submitted by the editor of the Oregon Section of NORTHWEST MEDICINE for the more adequate dissemination, through the component societies, of information concerning the activities of the Society.

32. Voted not to approve or disapprove the so-called Dufur (Wasco County) Medical Plan, but to consider it as an experiment.

33. Adopted the following policy concerning health pro-

grams of official and voluntary agencies: "Many official and voluntary agencies in the state are interested in health. Many valuable contributions have been made in this field. The Oregon State Medical Society desires to cooperate with and assist all these agencies. In view of the fact that public health problems represent a field of specialized endeavor, where a background of public health and medical training are essential, it is important and desirable that all health activities be correlated in the interest of efficiency, the avoidance of duplication, the conservation of funds, and, most important of all, the public welfare. Therefore, the Oregon State Medical Society advocates that all programs that relate to health be developed in close cooperation with the official health agencies; namely, the state, county, and city health departments. The Society further advocates that all medical phases of all programs be administered through these agencies."

34. Authorized the joint committee of Lane County Medical Society to use the name, "The Bureau of Medical Economics of the Lane County Medical Society."

35. Authorized the appointment of a delegate to the United States Pharmacopeial Convention.

36. Authorized the appointment of a representative to enroll in the Second Pacific Coast Series of Short Courses in Public Relations to be conducted by the American Council on Public Relations at Reed College July 22 to August 2, the enrollment fee and federal tax totalling \$37.50 to be paid from the budgetary allotment of the Committee on Public Relations.

37. Joined with California State Medical Association in requesting the Board of Trustees of the American Medical Association to install in the Hall of Science of the Golden Gate International Exposition an exhibit portraying the advances in the field of scientific medicine and public health.

38. Voted to inform Coos and Curry Counties Medical Society and Coos Bay Hospital Association of the Council's hearty approval of the plan to reorganize Coos Bay Hospital Association to permit equal participation by all members of Coos and Curry Counties Medical Society and offering every assistance by the Bureau of Medical Economics in carrying out this plan.

39. Authorized the Advisory Committee to the Assistant to the Executive Secretary to prepare a simple and inexpensive pamphlet explaining the services available through approved medical service bureaus for distribution to prospective groups of subscribers.

40. Requested the Treasurer to submit monthly reports showing current and cumulative receipts and expenditures and unexpended balances in the budgetary allotments set aside for various purposes in the annual budget.

41. Authorized the Committee on Public Policy to cooperate with the Oregon State Board of Health in drafting a sound venereal disease control act.

42. Adopted a statement, based on information received after the 1939 Session, indicating that the Mayo Clinic and Foundation was not responsible for the article concerning the Clinic and Foundation in "Life" for September 4, 1939, which was the subject of criticism by the House of Delegates at the 1939 Session.

43. Adopted the following policy with respect to postgraduate education:

a. That for the next three years the instruction offered by the Society consist of a centralized course to be offered in connection with the annual session.

b. That the Society act as a clearing-house of information concerning all sources of postgraduate instruction in the state, for the purpose of avoiding duplication but not to impose its desires on district medical societies and other organizations offering postgraduate instruction.

c. That the Society assume the responsibility of publicizing to the medical profession of the state all available forms of postgraduate instruction through NORTHWEST MEDICINE and other proper media.

44. Authorized the extension of the activities of the Physicians and Surgeons Hospital Association of Salem to the territory embraced by Tillamook County Medical Society.

45. Adopted a resolution recommending elimination from the Venereal Disease Control Act of the provision requiring the reporting of cases by persons other than physicians.

46. Adopted a resolution calling for opposition to any

proposed amendments to the Venereal Disease Control Act, including provisions relating to the use of the laboratory facilities of the State Board of Health, and the Marriage Examination Law, unless the agency advancing such amendments presents them to the Society in time for adequate consideration, or unless the appropriate committee of the Society formally approves them.

47. Adopted a resolution providing for formulation of a policy and program for the Oregon State Hospital by the Committee on Medical Education and Hospitals, with addition of two members engaged in the practice of neuropsychiatry.

48. Adopted a policy with respect to postgraduate education, declaring that such instruction is a function of the medical profession itself, as represented by the constituent state medical associations, the American Medical Association and affiliated organizations in the specialties, and approved medical schools.

49. Adopted a resolution concerning certain objectionable practices of insurance companies and authorized the Society's delegate to submit it to the House of Delegates of the American Medical Association.

50. Approved Coos Bay Hospital Association as an agency to administer a plan of prepaid medical care to low-wage industrial groups within the territory embraced by Coos and Curry Counties Medical Society.

51. Authorized the Multnomah Medical Service Bureau of Portland to extend its activities to the territory embraced by the Central Oregon Medical Society.

52. Designated the Executive Committee to act, for the present, as a Committee on Medical Preparedness.

53. Authorized the President to appoint a Committee on Nursing Service and Education to consist of three members with staggered terms.

54. Adopted the report of John Tuhy, Delegate to the United States Pharmacopeial Convention.

55. Invited the National Physicians' Committee for the Extension of Medical Service to send a representative to the Eugene Session to discuss the aims and activities of the Committee.

56. Authorized placing of exhibits at the Oregon State Fair and the Multnomah County Fair showing the decline in mortality in communicable diseases and the progress under the Society's program of prepaid medical care for low-wage industrial workers.

57. Authorized extension of the activities of the Physicians and Surgeons Hospital Association to the territory embraced by Lincoln County Medical Society.

58. Authorized appointment of a committee to study plans of medical indemnity insurance and to report concerning the possibilities of developing an acceptable plan of medical indemnity insurance for the wives of employees who are now subscribers of approved medical service bureaus, which would be adaptable to the present method of operation of the bureaus.

59. Authorized appointment of three representatives and three alternates from the Bureau of Medical Economics to attend a proposed conference of representatives of Pacific Coast professionally-controlled organizations offering prepaid medical care, to exchange experience under the various plans.

60. Instructed the Committee on Public Policy and the Committee on State Industrial Affairs to cooperate with the Interim Committee on the Workmen's Compensation Law in dealing with the medical phases of the law.

61. Instructed the Committee on Constitution and By-Laws to consider the question of incorporating the Society as a nonprofit corporation and to present recommendations to the House of Delegates.

Your secretary extends an expression of gratitude for the assistance he has received from the officers, councilors, committee members and the Society's employees. He is also deeply grateful for the cordial cooperation of the officers of the component societies and the kindly helpfulness of the membership as a whole.

MORRIS L. BRIDGEMAN,
Secretary

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Postgraduate Education

Your committee wishes to report that, as a result of a number of meetings and discussions held by your committee and other individuals representing various groups in the state interested in the matter of postgraduate medical education, the following recommendations have been formulated and approved by the Council of the Oregon State Medical Society:

1. That for the next three years the instruction offered by the Society consist of a centralized course to be offered in connection with the annual session.

2. That the Society act as a clearing house of information concerning all sources of postgraduate instruction in the state for the purpose of avoiding duplication but not to impose its desires on district medical societies and other organizations offering postgraduate instruction.

3. That the Society assume the responsibility of publicizing to the medical profession of the state all the available forms of postgraduate instruction through NORTHWEST MEDICINE and other proper media.

If, as stated before, a well-coordinated program is to be carried out, the material for this should be planned in advance for probably a minimum three-year period.

In order that this may be successfully accomplished, it seems essential that the Committee on Postgraduate Education be directly affiliated with the Committee on Annual Session, so that the necessary type of prearranged plans can be carried out.

It should be emphasized again that the Society should not be regarded as competing with any other groups in the state in the matter of postgraduate medical education. We feel it, in fact, highly desirable that the various efforts being made by the various groups be encouraged and that the State Society, aside from the graduate study offered at the annual meeting, act in the capacity of a coordinating mechanism.

KARL H. MARTZLOFF,
Chairman

President Hunt requested that, during the coming year, the membership communicate their desires concerning postgraduate instruction to the Committee on Postgraduate Education.

Charles E. Sears expressed the opinion that the medical profession should watch the progress of postgraduate education carefully and that each individual physician should be responsible for some small part in furthering this activity. He stated that physicians, by reading the material given them by detail men and mailed to them by commercial houses, are likely to lose sight of some of the fundamental facts that constitute the background of medicine.

Dr. Sears expressed the opinion that the best way to keep up to date in methods of treatment is through "refresher" courses. He stated that such courses should be offered in the form of symposia. He stated that the University of Oregon Medical School has responded to this suggestion last year and presented a course on cardiovascular diseases. He suggested that the Society might consider similar courses for its programs. He stated that he favored the Society's offering more systematized postgraduate instruction than heretofore.

Dr. Sears also pointed out that the public is becoming aware of the desirability of postgraduate study for physicians and is demanding that the physician equip himself to give the very best medical service. He stated that the Society does not desire to enter into a program of postgraduate education with the idea of competing with other existing programs, but the situation is difficult because of the increasing number of postgraduate opportunities.

It was voted that the report of the Committee on Postgraduate Education be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Charitable Medical Care

The subcommittee which deals with official agencies providing indigent medical care has met with the representatives of the Medical Section of the State Public Welfare Commission numerous times throughout the year. Your committee has nothing special to report at this time aside from the fact that occasional complaints arise in various parts of the state concerning some of the activities of representatives of the State Public Welfare Commission.

Your committee would again like to remind the House of Delegates, and through them the membership throughout the state, that when complaints are made, they should be made in writing so that the Council of the State Society may have a record of what has transpired. Your committee would also like to urge upon the membership of the Society the necessity of calling to the attention of the Council anything which they feel requires change or adjudication in the relationship of the various component medical societies to the State Public Welfare Commission. Only in this way can annoying episodes be recognized and corrected before they develop into major causes of complaint.

We also suggest that (1) the Council again request each component society to appoint a committee to act in an advisory capacity to the county public welfare commission in matters relating to medical care; and (2) the Council invite the officers of the component societies to attend a meeting of the Council for a discussion of problems arising in connection with the providing of medical care to public welfare commission clients.

Your committee wishes to express its appreciation of the cooperation of the State Public Welfare Commission and also the intelligent, helpful interest of the Council in handling matter brought to their attention.

Owing to the satisfactory relationships which have been developed between the Society and the various voluntary agencies providing charitable medical care, it has not been necessary for the subcommittee which deals with these organizations to be particularly active during the past year.

However, the committee met on several occasions with representatives of the Oregon Congress of Parents and Teachers. As a result of these conferences the summer roundup of preschool children, by mutual agreement, has been discontinued. The efforts of the Parent-Teachers organizations in this connection are now being almost entirely devoted to urging the examination of preschool children by the family physician.

S. G. HENRICKE,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Child Health

Your committee on Child Health submits the following report.

We have cooperated with official health agencies in regard to child welfare.

We have had conferences with the Director of Maternal and Child Health for the State of Oregon and have assisted him in the work of education in child health.

Conferences with voluntary organizations interested in child health have been held. We regret to report the program of education of both physicians and the laity as to the importance of periodic health examinations for all adults in contact with children has made little progress. Several hundred booklets have been distributed to physicians in the state.

L. HOWARD SMITH,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Venereal Diseases

This year the State Board of Health brought before the Committee on Venereal Diseases two requests: (1) the approval of a pamphlet to be distributed to the profession, to be handed on to patients suffering from syphilis, giving instructions designed to protect society against this infection, along with advice in regard to treatment; and (2) a pamphlet setting forth the minimum accepted standards for treatment of early syphilis.

These two problems were gone over by this committee on November 30, 1939, and our recommendations forwarded to the Council of the Oregon State Medical Society on December 2.

The problem brought before this committee last year by the State Board of Health in regard to establishing clinics in the City of Portland, in cooperation with the University of Oregon Medical School Out-Patient Clinic for the control of syphilis, which was referred back for data to show that there was a need for this project, with an outline of the proposed plan as well as the location of these clinics, has not been returned for consideration by this committee during the past year.

MERLE L. MARGASON,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Conservation of Hearing

The work of this committee has not been active throughout the state. However, several conferences were held in Portland with the teachers in regard to a special survey of children who were known to be hard of hearing. Nothing came of this, for it was found that there were no funds for special equipment or trained teachers required for the care of these children. In conjunction with the Portland League for the Hard of Hearing, a number of children were sent to otologists for examination and treatment.

It is difficult to obtain a place on the program of the Parent-Teachers Association and the time usually allotted is entirely too short. Your committee suggests the drafting of a program early and making contacts with the P. T. A., or other organizations in time to assure its being presented sometime during the coming year.

A questionnaire was sent to ten otologists in the state, asking how many children they had seen with defective hearing and how many of these had brought with them an audiogram. From the replies, it is estimated that about 12½ per cent of the patients brought audiograms.

With the addition of Warren H. Gardner to the staff of the State Board of Health, the prospects for the coming year are better. A plan is being worked out for a definite piece of work in certain districts. Dr. Gardner has a Hearing and Vision Exhibit which I hope every member will see.

WILSON JOHNSTON,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Conservation of Vision

This past year has been quite an active year for the Committee on Conservation of Vision, particularly along lines of instruction and education. Several meetings were held during the year with the public health physicians and nurses and at one meeting Mrs. Evelyn M. Jefferies, who has charge of the sight conservation work in our public schools, gave the Oregon Academy of Ophthalmology and Otolaryngology a nice talk on the work being done here in Portland.

Prior to July 4, again this year through the cooperation of the National Committee on the Prevention of Blindness and Station KGW in Portland, an electrical transcription pointing out the dangers to vision of eye injuries caused by fireworks was broadcast.

During the winter one of the members of the committee gave a series of four lectures to a large group of county health nurses and social workers on the eye and its problems.

This summer the National Society for the Prevention of Blindness allotted a sum of money to send one of their teachers to Portland for the summer session of the University of Oregon Extension Division. A course of lectures and a series of practical demonstrations were very well received by the registrants. In addition, a series of fifteen one-hour lectures were given to this same group by several of our local physicians, covering the anatomy, physiology, and diseases of the eye, together with some information on refraction, therapeutics and sight saving measures. The men who participated in this work were Drs. Kiehle, Dykman, Beattie, Henton, Johnston and Taylor.

It is not certain that the National Society will again donate any money for the same purpose so if this course is to be repeated, the expense will have to be met by the Board of Education.

It is felt by the committee that the whole project was very well received and quite worthwhile.

E. MERLE TAYLOR,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Advisory Committee on Laboratory Standards to the State Board of Health

Your committee has met several times during the past year. In each instance there was present a representative from the State Board of Health, and our problems dealt particularly with an interpretation of the existing laws concerning laboratory standardization and further with the methods by which this standardization procedure is being governed.

Your committee was appointed according to the laws of the State of Oregon to cooperate with the State Board of Health in laboratory standards, and the committee has become increasingly aware of the fact that we are not only not considered as an advisory group, but that it is difficult even to gain consideration of our ideas relative to laboratory standardization.

A representative group from your committee met with the State Board of Health in one instance and presented to the Board in written form several requests which the committee felt would clarify and overcome difficulties which had arisen. The committee realized that, so far as the standardization procedures were concerned, all procedures controlled by one individual, an employee of the State Board of Health, and that members of the Board at large were unfamiliar with the problems at hand.

At another time your committee reported to the Council of the Society the results of their difficulty in securing cooperation with the State Board of Health, which, up to that time, was nil. At a subsequent meeting the Council of the Society had an open discussion with a representative of the State Board of Health, at which time it was felt that all difficulties could readily be overcome. Again at a subsequent meeting the committee met with members of the State Board of Health. The present status of the situation is, so far as action and cooperation from the State Board of Health are concerned, status quo as over the past year except that we have reason to believe that our requests may be granted.

An endeavor to gain recognition of this committee and cooperation from the State Board of Health, according to the laws of the State of Oregon, will be continued by your committee until this recognition is finally consummated or the law is changed.

C. H. MANLOVE,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

Committee on Honorary Membership

No called meeting of the Committee on Honorary Membership has been held but the members have been in contact by correspondence. The name of Dr. Fred Gullette has been considered for eligibility for honorary membership and it is agreed that the matter should be presented to the Society for consideration.

Dr. Gullette has recently retired from active practice because of a severe myocarditis. In view of the many years of active and honorable service rendered in the pursuit of his profession, it is agreed that he well deserves a place on the roll of honorary members of the Society.

D. C. BURKES,
Chairman

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

At 9:00 a. m. it was voted to adjourn until 7:00 a. m. on Friday.

THIRD SESSION

Friday, September 6

The House of Delegates was called to order by President Charles E. Hunt at 7:30 a. m. in the Palm Room of the Osburn Hotel.

On roll-call the following members of the Council were present:

Charles E. Hunt, President; Charles E. Sears, Past-President; George E. Henton, First Vice-President; Morris L. Bridgeman, Secretary; J. E. Buckley, Treasurer; Councilors L. M. Spalding and L. S. Kent; John H. Fitzgibbon, Delegate to the American Medical Association, and Ralph A. Fenton, Trustee to the American Medical Association.

The following delegates were present:

N. L. Tartar of Corvallis, Benton County Medical Society; E. H. McLean of Oregon City, Clackamas County Medical Society; Allen M. Boyden of Astoria, Clatsop County Medical Society; J. C. Vandever of Bend, Central Oregon Medical Society; Donald M. Long of Marshfield, Coos and Curry County Medical Society; A. E. Dodson of Medford, Jackson County Medical Society; George I. Wright of Klamath Falls, Klamath County Medical Society; Carl H. Phetteplace and Ronald C. Romig of Eugene, Lane County Medical Society; M. M. Woodworth of Albany, Linn County Medical Society; W. J. Weese of Ontario, Malheur County Medical Society; Richard B. Adams, Carl G. Ashley, A. G. Bettman, John H. Besson, F. H. Dammasch, Aubrey M. Davis, Warren W. Hale, Frank R. Mount, W. F. Patrick, Roy A. Payne, John Raaf, D. S. Swart, and Charles P. Wilson of Portland, Multnomah County Medical Society; Stanley E. Wells of Hood River, Mid-Columbia Medical Society; Burton A. Myers and C. W. Emmons of Salem, Polk-Yamhill-Marion Medical Society, and J. P. Brennan of Pendleton, Umatilla County Medical Society.

R. J. Pilkington of Astoria, Leslie G. Johnson of Marshfield, R. W. Christiansen of Redmond, J. C. Hayes of Medford, E. L. Zimmerman of Eugene, Thompson Coberth of The Dalles, C. L. Booth, Wendell H. Hutchens, Wilson Johnston, Bradford N. Pease and Joseph A. Pettit of Portland, H. J. Clements of Salem, Clarence A. Smith of Seattle, editor of *NORTHWEST MEDICINE*; W. B. Penney of Tacoma, retiring president of Washington State Medical Association, the executive secretary, and the assistant to the executive secretary were also present.

Morris L. Bridgeman, Chairman of the Committee on Credentials, reported that in the absence of certain regularly elected delegates from the Multnomah County Medical Society, Wilson Johnston of Portland was present and eligible to be seated. Dr. Johnston was seated by vote of the House.

Report of Delegate to A.M.A.

John H. Fitzgibbon presented an extensive verbal report of actions taken by the House of Delegates of the American Medical Association at the 1940 meeting in New York.

He stated that the threat of war dominated the atmosphere at the meeting and that, therefore, the main actions taken related to preparedness. He called special attention to the action of the House in authorizing the Board of Trustees to create a Committee on Medical Preparedness.

Dr. Fitzgibbon stated that the President of the Association, in his address to the House, pointed out two significant facts: First, that, in spite of the recent attacks upon the Association, its membership increased by 3,171 during the year ending March 1, 1940; and, second, the astounding ignorance among the medical profession concerning the activities of the Association. He suggested that each local society consider setting aside one meeting each year to be devoted to a discussion of the work of the American Medical Association and the Oregon State Medical Society.

Dr. Fitzgibbon reported that the Council of the Society had adopted the following resolution concerning certain objectionable practices of insurance companies and had requested him to submit it to the House of Delegates of the American Medical Association:

RESOLUTION CONCERNING CERTAIN OBJECTIONABLE PRACTICES OF INSURANCE COMPANIES (Adopted by the Council on June 1, 1940):

Whereas: Certain insurance companies which write medical indemnity insurance, or medical expense insurance, or health and accident insurance, or insurance providing for compensation and medical aid benefits to workmen injured in the course of their employment, have established the practice of demanding from physicians reports of diagnosis and treatment without the authorization of the assured; and

Whereas: Many of these companies also attempt to fix the fee for the physicians' services, and often attempt to apply the fee schedule of the state agency administering the workmen's compensation law, even though the physician has no contractual or other relationship with the insurance company involved; and

Whereas: The fee schedules of the agencies administering the various workmen's compensation laws have been established in cooperation with representatives of the medical profession and are based upon a generous discount from customary fees offered by the medical profession to a non-profit state agency as a gratuitous contribution to the welfare of their state and community; and

Whereas: There is no justification for commercial organizations operating for profit to apply such fee schedules in order to make a profit for themselves; and

Whereas: These practices are not confined to Oregon, but are national in their scope; now, therefore, be it

Resolved by the Council of the Oregon State Medical Society:

1. That the practices of such insurance companies in demanding from physicians reports of diagnosis and treatment without the authorization of the assured, and in so fixing the fee for the physicians' services, even though the physician has no contractual or other relationship with the company involved, are hereby declared to be contrary to the best interests of the public and the medical profession.

2. That a copy of this resolution be sent to the Secretary of the American Medical Association, for the attention of the House of Delegates of that Association.

3. That the delegate from Oregon to the coming convention of the House of Delegates of that Association be furnished with a copy of this resolution, and that he be asked to have this matter brought to the attention of said House of Delegates.

Dr. Fitzgibbon read the following statement concerning the subject-matter of this resolution which was recommended to the House by its Reference Committee on Executive Session, and adopted by the House:

"Recognizing the problems arising from the conditions set forth in this resolution and recognizing injustices connected therewith, your reference committee recommends that the House of Delegates go on record as disapproving practices by insurance companies tending to bind the profession to accept voluntarily fee schedules adopted for the purpose of providing medical service insurance to groups of limited income or fee schedules accepted from the operations of workman's compensation acts."

Dr. Fitzgibbon reported that the Reference Committee on Amendments to Constitution and By-Laws dissented from the conclusion of the Judicial Council that the Principles of Medical Ethics be not rearranged and reworded and that the Committee recommended that a committee be appointed for this purpose. The House rejected this recommendation, thus indicating its belief that the Principles of Medical Ethics should remain unchanged.

The Judicial Council called attention to the great divergence of qualifications for membership in component

county and constituent state associations and that the Judicial Council recommended "that only Doctors of Medicine, licensed to practice medicine and whose licenses are registered in the county or state in which they make application, be accepted for full membership in the American Medical Association."

Dr. Fitzgibbon called attention to the recent deaths of Drs. Austin A. Hayden of Chicago and Charles B. Wright of Minneapolis, who served for many years on various bodies of the American Medical Association at great personal sacrifice, and recommended that the Committee on Resolutions prepare suitable resolutions concerning their deaths.

President Hunt introduced Mrs. James M. Odell, President of the Woman's Auxiliary. Mrs. Odell introduced Mrs. V. E. Holcombe of Charleston, West Virginia, and Mrs. Roscoe E. Mosiman of Seattle, President and President-Elect, respectively, of the Woman's Auxiliary to the American Medical Association.

Mrs. Holcombe spoke briefly, extending greetings to the Oregon State Medical Society from the National Auxiliary.

President Hunt called attention to the presence of Ralph A. Fenton and pointed out that he had again been elected a Trustee of the American Medical Association.

Dr. Fenton spoke briefly concerning the program of medical preparedness of the American Medical Association and to the questionnaire sent to all physicians to develop information so that, in a national emergency, physicians may be called upon for the services they are best equipped to render. He pointed out that Reserve Officers in the lower age group should make arrangements for the care of their practices, as they will be needed for the care of troops and men in training who will shortly be called for service. Dr. Fenton stated that the major effort of the Board of Trustees during the coming year will be to assist in the defense program of the United States in every possible way.

President Hunt read a letter in which it was stated that there are vacancies in the medical personnel of the Oregon National Guard.

Bureau of Medical Economics HISTORY

At the 1938 Session, the House of Delegates adopted a Policy and Program for the Medical Care of Low-Wage Industrial Groups which provided for the establishment of the Bureau of Medical Economics. The organization of the Bureau was retarded by the prolonged delay in making certain adjustments in Lane and Multnomah Counties which necessarily preceded the approval of local plans for the medical care of low-wage industrial groups by the respective component societies in these counties. A plan for coordinating the two local organizations operating in the first of these counties was approved by Lane County Medical Society in May, 1939, and Multnomah Medical Service Bureau was approved by Multnomah County Medical Society in June, 1939. Both of these local plans were subsequently approved by the Council of Oregon State Medical Society and the sponsoring organizations became affiliated with the Bureau of Medical Economics.

In December, 1939, the Council approved a budget of \$4,850 to cover the cost of the necessary personnel and facilities to discharge the functions of the Bureau as defined by the House of Delegates. The Council voted that these funds be raised by a contribution by each approved local organization based upon the payment of \$5 for each of its affiliated physicians, provided each is a member of Oregon State Medical Society, or otherwise the approved local organization to make a contribution based on $\frac{1}{2}$ of 1 per cent of its gross income for 1939, Oregon State Medical Society to make a contribution of not to exceed 50 per cent of the total budget.

The Council concluded that an individual with experience in connection with professionally controlled plans of prepaid medical care should be employed as an assistant to the executive secretary to act as an administrative officer for the Bureau. After careful consideration of a number of applicants, the Council selected Mr. John R. Caughell, who had been associated for several years with the Physicians and Surgeons Hospital Association of Salem, to serve in this capacity. Coincident with the employment of Mr. Caughell, the Council authorized the appointment of an advisory committee to supervise his activities, in order that they be carried on in consonance with the declared policies of the House of Delegates and the Council. Mr. Caughell undertook his duties on February 1, 1940.

FIELD WORK

Since his employment on February 1, the assistant to the executive secretary has traveled 16,193 miles in visiting the officers of component medical societies, approved medical service bureaus, and individual members of the Society in twenty-eight of the thirty-six counties of the state. The purpose of these visits was to acquaint the local medical profession with the program of the Society and to offer its assistance in dealing with local problems.

FORMULATION OF POLICIES

For the guidance of component medical societies and approved medical service bureaus, the Bureau issued a statement, entitled "Recommended Policies and Procedures for Providing Medical Care to Low-Wage Industrial Groups."

SERVICES TO APPROVED MEDICAL SERVICE BUREAUS

One of the primary functions of the Bureau of Medical Economics is to act in an advisory capacity in connection with plans of prepaid medical care offered by the component medical societies through approved medical service bureaus.

In discharging this function during the past year, the Bureau was instrumental in assisting to effect a reorganization of the Coos Bay Hospital Association so that every member of the local medical society could participate on an equal basis.

The Bureau also developed a fee schedule to be applied in providing services to subscribers of approved medical service bureaus when they are away from their home communities. This schedule was sent to all members of the Society, together with a form for return indicating the willingness of the member to provide his services under the stated conditions. Approximately 800 physicians have returned the form indicating their willingness to cooperate.

The Bureau arranged two meetings of the executives of the approved medical service bureaus to discuss problems of mutual interest. The first of these meetings was held on June 29. The second meeting will be held during the annual session.

The Policy and Program adopted by the House of Delegates provides that each approved local organization shall limit its activities to the territory embraced within the jurisdiction of the local society by which it is approved, except that upon the request of a neighboring local society, the Council may authorize the extension of the activities of a local organization to the territory of the petitioning society. During the past year, upon request of the local societies involved, arrangements were completed by which the Multnomah Service Bureau of Portland was authorized to extend its activities to the territory embraced by the Mid-Columbia Medical Society and the Central Oregon Medical Society. Upon a similar petition to the Council, the Physicians and Surgeons Hospital Association of Salem was authorized to extend its activities to the territory under the jurisdiction of Tillamook County Medical Society and Lincoln County Medical Society.

During the year, a series of service bulletins for the use of the approved bureaus was inaugurated. The first of these bulletins dealt with the increased cost of drugs when prescribed under the proprietary name rather than the official name. A number of the approved bureaus sent this bulletin to all physician members.

The Bureau also undertook an analysis of the organization and operation of each affiliated medical service bureau. These data are now available to component societies contemplating the inauguration of a plan of prepaid medical care for low-wage industrial groups.

PUBLICITY

The Bureau published a pamphlet, entitled "Medical and Related Services on a Budget Plan," outlining the services available to low-wage industrial groups through the approved medical service bureaus. A copy of this pamphlet, together with a letter explaining the Society's program, was mailed to every physician and editor in the state. The pamphlet and accompanying communication aroused considerable favorable editorial comment.

A news story outlining the growth in the number of subscribers of the approved medical service bureaus affiliated with the Bureau of Medical Economics was prepared and released to the newspapers of the state in July. This story was widely used by many of the newspapers.

In cooperation with the Committee on Public Relations, the Bureau placed exhibits at the Oregon State Fair and the Multnomah County Fair outlining the Society's program for the medical care of employed groups and showing the growth in the number of subscribers of approved medical service bureaus since the inception of the program in 1931.

PROGRESS OF APPROVED BUREAUS

The Bureau of Medical Economics is gratified to report a substantial growth in the number of employee-subscribers of the affiliated medical service bureaus. During the first six months of the year, it is estimated that the number of subscribers grew from 30,000 to 37,000.

The Bureau earnestly solicits the suggestions of the membership concerning its activities in dealing with the problem of providing medical care to low-wage industrial groups.

J. EVERETT BUCKLEY,
*Chairman, Advisory Committee to the
Assistant to the Executive Secretary.*

It was voted that this report be referred to the Reference Committee on Reports of Committees and Officers.

E. H. McLean called attention to the fact that little had been done to eliminate pollution in the rivers of the state and that the people were being denied the recreational advantages which the rivers had formerly offered. He expressed the opinion that the proper committee of the Society should take steps to obtain action by local and state authorities empowered to eliminate stream pollution.

J. C. Vandeventer stated that the movement to eliminate stream pollution had not received adequate support from the public or the medical profession in the past. He expressed approval of Dr. McLean's proposal.

It was voted that the subject of stream pollution be referred to the Committee on Resolutions, with recommendation that it bring in a suitable resolution urging state and local authorities to proceed toward the elimination of pollution in the rivers of the state.

James C. Hayes discussed the difficulties existing in Jackson County in connection with prepaid medical care for low-wage groups. He stated that considerable dissension existed between some of the members of Jackson County Medical Society and the Southern Oregon Medical Service Association, the local medical service bureau approved by Jackson County Medical Society. He expressed the opinion that the State Society might be helpful in eliminating this dissension and requested that the Council meet with Jackson County Medical Society in the near future. President Hunt stated that he had taken the liberty of promising Dr. Hayes that the Council would hold such a meeting at an early date.

Committee on Public Relations

All activities pertaining to public relations are apt to be far reaching in their effects for good or evil. They likewise involve the expenditure of considerable sums of money. They are subject to unfavorable as well as favorable reactions both outside and inside the profession. This committee has been mindful of these facts.

During the past year, war, national defense, and political defense have so absorbed the attention of the public and

Congress that this committee has largely limited its activities to gathering information and advice and digesting this material, with two exceptions. In November, 1939, with the attempt on the part of certain lay hospital associations to encroach upon and attempt to dominate further the rights of practicing physicians and organized medicine, it was felt by the committee, and on the advice of the Council, that a public statement should be made of the position of Oregon State Medical Society pertaining to our program for covering low wage groups on a contract basis and in particular our attitude toward hospital and indemnity insurance. In particular, we wanted to make it clear to the public that Oregon State Medical Society understood the problems of the low income group and as an expression of their sympathetic understanding were constantly extending their study and sphere of action in the case of such groups. In doing so, they felt it necessary to guard the independence of the medical profession that a high order of medical service be maintained and that the medical profession would be free from the dictation and control by organizations and individuals, whose interests are alien to the profession and practice of medicine. To this end, there appeared in the newspapers throughout the state a statement setting forth our policies.

To extend the knowledge of public relations technic and to promote an association with other business carrying on public relations work, your president appointed the chairman of this committee to attend the second Pacific Coast Course in Public Relations conducted at Reed College by the American Council on Public Relations from July 22 to August 2, 1940. It may be briefly stated that a large amount of informative material was gained from this course by your representative similar to that gained by the course in 1939. The summary of this course will be provided by the Council and should prove useful to this committee and the Council. An interesting opportunity was afforded to present to sympathetic and understanding minds the problems of medicine to this body of individuals, comprising some 105 heads or executives of business and professional institutions in this area.

CHARLES E. SEARS,
Chairman

At the conclusion of this report, Dr. Sears gave a more detailed oral report on the Short Course in Public Relations held at Reed College in July. He stated that the other participants in the course were better informed than last year concerning the medical profession and its efforts and aims and the participants included representatives of a large proportion of the larger industries and fields of business in the state.

He stated it was significant that the instructors in the course constantly used illustrations taken from the practice of medicine to drive home their points. It was interesting to observe that, when the medical profession was criticized, members of the faculty came to the defense of the profession at all times.

Dr. Sears stated the criticism of the faculty of the course was that the medical profession does not take sufficient interest in public relations, with the result that the general public is uninformed concerning the work, as well as the problems, of the profession. He pointed out that it is necessary to have the laity informed as much as possible on the work and problems of the medical profession in order to keep their continued respect.

Dr. Sears urged that the Society organize its public relations plans more effectively, that industrial leaders be approached and the problems of the medical profession explained to them, and that consideration be given to the trend of public opinion in our community toward the medical profession. He cited an instance in which he interviewed one of the civic leaders in Portland. During the course of the interview he was asked to give and did give

the background underlying the medical profession's position on numerous phases of medical economics. Later, during the course at Reed College, this civic leader responded to a statement made by an industrial executive criticizing the medical profession, by pointing out the principles underlying the position of the profession and the errors that industry is making in its relations with medicine.

It was voted that the report of the Committee on Public Relations be referred to the Reference Committee on Reports of Committees and Officers.

John H. Fitzgibbon reported that a committee, consisting of Karl H. Martzloff, Robert L. Benson, Richard B. Adams, W. B. Morse, and John J. Coughlin, legal counsel, and himself, had recently called on Senator Charles L. McNary to thank him for his past support of the policies of organized medicine and to congratulate him on his nomination as the Republican candidate for Vice-President of the United States. Dr. Fitzgibbon stated that, during this interview, Senator McNary volunteered the statement that his attitude toward the practice of medicine was entirely that of a professional man.

At 9:20 a.m., it was voted to adjourn until 7:00 a.m. on Saturday.

FOURTH SESSION

Saturday, September 7

The House of Delegates was called to order by President Hunt at 7:45 a.m. in the Palm Room of the Osburn Hotel.

On roll-call the following members of the Council were present:

Charles E. Hunt, President; Charles E. Sears, Past-President; Karl H. Martzloff, President-Elect; George E. Henton, First Vice-President; Morris L. Bridgeman, Secretary; Councilor L. S. Kent; John H. Fitzgibbon, Delegate to the American Medical Association; and Ralph A. Fenton, Trustee to the American Medical Association.

The following delegates were present:

E. H. McLean of Oregon City, Clackamas County Medical Society; Allen M. Boyden of Astoria, Clatsop County Medical Society; Carl H. Phetteplace and Ronald C. Romig of Eugene, Lane County Medical Society; Thompson Coberth of The Dalles, Mid-Columbia Medical Society; Carl G. Ashley, Robert L. Benson, Aubrey M. Davis, John R. Montague, Frank R. Mount, Wilson Johnston, Roy A. Payne, and John Raaf of Portland, Multnomah County Medical Society; Burton A. Myers and Carl W. Emmons of Salem, Polk-Marion Medical Society; and J. P. Brennan of Pendleton, Umatilla County Medical Society.

R. W. Christiansen of Redmond, R. J. Pilkington of Astoria, A. H. Ross and E. L. Zimmerman of Eugene, C. L. Booth of Portland, John J. Coughlin, legal counsel, the executive secretary, and the assistant to the executive secretary were also present.

Morris L. Bridgeman, Chairman of the Committee on Credentials, reported that, in the absence of the regularly elected delegate from the Central Oregon Medical Society, R. W. Christiansen of Redmond was present and eligible to be seated. Dr. Christiansen was seated by vote of the House.

It was unanimously voted that a vote of appreciation be given Dr. Bridgeman for his faithful and untiring efforts as secretary.

Thompson Coberth suggested that at future annual banquets arrangements be made for an intermission between dinner and the addresses of the evening.

A letter from C. L. Gilstrap of La Grande, suggesting that the Society meet in that city in 1941 and 1942, was read. It was voted that this letter be referred to the Council.

A telegram from the Hotel Gearhart, extending best wishes for the success of the present meeting and an invitation to hold the 1941 Session there, was read. It was voted that this telegram be referred to the Council.

Committee on Reports of Committees and Officers

1. Your committee recommends the adoption of the reports of the Secretary, the Treasurer, the Delegates to the American Medical Association, the Committee on Annual Session, the Committee on Public Safety, the Committee on Publication, the Committee on Medical Education and Hospitals, the Committee on Postgraduate Education, the Committee on Malpractice, the Committee on State Industrial Affairs, the Committee on Charitable Medical Care, the Committee on Public Relations, the Committee on Maternal Welfare, the Committee on Child Health, the Committee on Cancer Study, the Committee on Venereal Diseases, the Committee on Conservation of Hearing, the Committee on Conservation of Vision, the Advisory Committee to the Woman's Auxiliary, the Advisory Committee on Laboratory Standards to the State Board of Health, the Committee on Teachers' Annual Examination Law, and the Bureau of Medical Economics, and the recommendations contained therein.

2. Your committee recommends the approval of the report of the Committee on Honorary Membership, in which it is recommended that Dr. Fred Gullette of Portland be elected to honorary membership, and that, in accordance with the By-Laws, this recommendation be referred to the Council for its favorable consideration.

3. Your committee calls special attention to the continued growth of the membership and to the fact that the present membership of 856 is the largest in the history of the Society.

4. Your committee directs your attention to the great need of increased facilities and personnel at the Oregon State Hospital as outlined in the report of the Committee on Medical Education and Hospitals and urges that all the component societies strongly support an effort to have this need met at the coming session of the State Legislature.

5. Your committee calls attention to the well-developed educational program of the Committee on Maternal Welfare under which the maternal mortality in Oregon has been reduced from 5.5 per thousand in 1935 to 2.6 per thousand in 1939.

6. Your committee especially commends the work of the Bureau of Medical Economics and notes with gratification the progress made in carrying out the Society's program to provide medical care to employed groups.

It was voted that this report be adopted.

Committee on Resolutions

1. *Resolved:* That the Oregon State Medical Society express its appreciation to Fred M. Smith, Hans Lissner, Donald V. Trueblood, and Arthur Steindler, guest speakers at our scientific sessions, for their stimulating and instructive addresses and round-table discussions.

2. *Resolved:* That the Oregon State Medical Society express its appreciation to Roy W. Fouts, John H. O'Shea and John Hunt Shephard for their informative discussions of various social and economic problems confronting the medical profession.

3. *Resolved:* That the Oregon State Medical Society express its thanks to the Secretary and the Committee on Annual Session for the outstanding program of scientific papers and exhibits.

4. *Resolved:* That the Oregon State Medical Society express its appreciation to our members and other local men whose scientific papers and exhibits added materially to the value of the program.

5. *Resolved:* That the Oregon State Medical Society again express its appreciation to the Woman's Auxiliary for its work during the past year in support of scientific medicine.

6. *Resolved:* That the Oregon State Medical Society express its appreciation to the officers and members of Lane County Medical Society for their splendid spirit of hospitality and their assistance in making the arrangements which contributed so much to the success of the session.

7. *Resolved:* That the Oregon State Medical Society express its thanks to the management and employees of the Masonic Temple, the Osburn Hotel, and the Eugene Hotel for the splendid service provided during the session; and to "The Eugene Register-Guard" and "The Eugene News" for publishing extensive news of the session.

8. *Resolved:* That the Oregon State Medical Society urge that state and local authorities proceed as rapidly as possible toward the elimination of pollution in the rivers of the state, to the end that our citizens and their families may again enjoy the recreational advantages which in many instances have been destroyed.

9. *Resolved:* That the Oregon State Medical Society express its sorrow on the recent deaths of Drs. Austin A. Hayden of Chicago and Charles B. Wright of Minneapolis, who for many years gave unstintingly of their time and energy to their respective state medical societies and various bodies of the American Medical Association, and that the condolences of the Society be extended to their families.

10. *Resolved:* That the Oregon State Medical Society express its sincere regrets over the untimely death of Dr. David Robinson of Tillamook, who gave many years of faithful service as secretary of his local society and as a member of our House of Delegates.

11. *Resolved:* That the Oregon State Medical Society express its sincere appreciation to Charles E. Hunt, our retiring President, for the competent, enthusiastic, and faithful manner in which he has discharged his duties during the past year.

12. *Resolved:* That the Oregon State Medical Society express its thanks to John H. Fitzgibbon for the unusually capable service he has rendered as our Delegate to the American Medical Association.

13. *Resolved:* That the Oregon State Medical Society extend its congratulations to Ralph A. Fenton upon his reelection to the Board of Trustees of the American Medical Association and the renewed honor that Dr. Fenton has thus brought to our Society.

14. *Resolved:* That the Oregon State Medical Society express its appreciation of the efforts of Charles P. Wilson as editor of the Oregon Section of *NORTHWEST MEDICINE*, and congratulate him upon the marked improvement in the dissemination of information concerning Society activities among the membership through the journal.

It was voted that this report be adopted.

Committee on Teachers' Annual Examination Law

The Committee on Teachers' Annual Examination Law, after a conference with representatives of the Oregon State Teachers Association, Portland High School Teachers' Association, Portland Grade School Teachers' Association, the Teachers' Union and the State Board of Health, proposes that the present law be amended as follows:

1. To eliminate the phrase "and other communicable diseases" so that the law will require certificates showing that the teacher is free from communicable tuberculosis only.

2. That an addition be made to the law as it now reads to state that the method of examination shall be by rule and regulation of the State Board of Health.

The State Board of Health suggests that the rule and regulation read as follows:

"That every employee of the School Board who comes in contact with the student in any school in this state shall present a certificate that he is free from active pulmonary tuberculosis. Such evidence is to consist of a health certificate issued by the State Board of Health which shall be granted upon the receipt of a satisfactory report of a negative reaction to the tuberculin test or a satisfactory roentgenogram of the chest which shows no evidence of active tuberculosis. A satisfactory report of a negative reaction to the tuberculin test shall be signed by a physician who has been licensed to practice medicine and surgery by the Oregon State Board of Medical Examiners in the State of Oregon and shall consist of a report of a skin test in which 1/10 milligram of old tuberculin or its equivalent has been used and which test has been performed within six months of the opening date of the school year. In the event that the skin test is negative, teachers under thirty-five years

of age shall be reexamined every two years and teachers over thirty-five years of age, every five years. In the event that the skin test is positive, two cm. or more, teachers under thirty-five years of age shall be required to present a roentgenogram every two years and teachers over thirty-five years of age shall furnish a roentgenogram every five years. A satisfactory roentgenogram is deemed to be one that is technically satisfactory for diagnostic purposes."

The State Board of Health suggests that Boards of Experts on the plates shall be set up in this state in order that there be no controversy in regard to the findings and the State Board of Health has appointed a committee consisting of Drs. Irvine, Payne and Weese to confer with the State Society in this matter.

It is evident that the passage of such a law and such regulations as are here suggested would alter the present law to consist only of a tuberculosis case-finding measure. It is the suggestion of the committee that in the event of the passage of such a law each county medical society authorize the method by which case-finding data shall be collected. In some counties it would doubtless be more expedient for the local physicians to have the state or county health officers of that district conduct the case-finding campaign, but in other counties it may be the desire of the society to have a committee of its members conduct this type of examination, as has been done in the case of school children.

It will be the understanding, in the event of a positive reaction, the teacher will then be referred to the physician of his choice and that further examination and collection of evidence will be in his hands, and that he will then be responsible for the issuance of such teachers' report to the State Board of Health.

JOHN R. MONTAGUE,
Chairman

Wilson Johnston expressed the opinion that there should be some regulation of the fee for the examination required by this law. He stated that over \$7,000 was spent on these examinations in the state last year and that only two teachers failed to receive certificates of health.

John R. Montague, Chairman of the Committee on the Teachers' Annual Examination Law, stated that the program outlined in this report was simple and, in the opinion of the committee, sound. He pointed out that the proposed program is merely a tuberculosis case-finding program and that the examination will not be expensive to a teacher unless he has a history of tuberculosis.

It was voted that the report of the Committee on the Teachers' Annual Examination Law be adopted.

Committee on Revision of Constitution and By-Laws

John R. Montague, Chairman, stated that the report consisted of the proposed amendments to the By-Laws submitted to the House on Thursday, September 5.

John H. Fitzgibbon called attention to the recent recommendation of the Judicial Council of the American Medical Association "that only Doctors of Medicine licensed to practice medicine and whose licenses are registered in the county or state in which they make application, be accepted for full membership in the American Medical Association." He suggests that, in connection with the amendment giving physicians engaged in full-time governmental employment, full-time scientific work, or full-time teaching, the option of becoming active or associate members, a further amendment be made to provide that a physician, must be licensed to practice medicine in the state in order to be eligible to full membership.

It was voted that the amendments to the By-Laws proposed by the Committee on Constitution and By-Laws be adopted. It was voted that the By-Laws as amended be adopted as a whole.

It was voted to amend Chapter 1, Section 1 (a) of the By-Laws to read as follows:

Active members shall be members in good standing of a component county or district society who are not delinquent in dues to this Society and who are duly licensed to practice medicine and surgery by the Board of Medical Examiners of the State of Oregon.

It was voted to amend Chapter 1, Section 2 (a) of the By-Laws to read as follows:

Junior members shall be physicians who are duly licensed to practice medicine and surgery by the Board of Medical Examiners of the State of Oregon and who shall have joined their respective county societies in this state within one year after completion of hospital apprenticeship.

It was voted that the By-Laws, as amended, be adopted as a whole.

John R. Montague, Chairman of the Committee on Revision of Constitution and By-Laws presented the following resolution: Be it

Resolved: by the House of Delegates of the Oregon State Medical Society:

1. That the matter of incorporation of the Oregon State Medical Society be referred to the Committee on Revision of Constitution and By-Laws.

2. That said committee, with the assistance of legal counsel for the Society, investigate the feasibility of incorporating the Society, and make a report to the Council with a recommendation. If said recommendation is to the effect that the Society be incorporated, the report shall contain a proposed set of Articles of Incorporation and By-Laws.

3. That the Council of the Society is hereby empowered to do all things necessary and proper to incorporate the Society, if it desires, including, among other things, acting as incorporators or trustees or directors, executing and filing articles of incorporation, authorizing and approving By-Laws, transferring assets of the Society to the corporation, and winding up the affairs of the Society. The Council may designate a committee of its members, or any or all of the officers of the Society to perform any of the functions of the Council in effecting its purpose.

4. That, if the Society is incorporated, the present setup of the Society be retained as closely as feasible under a corporate structure, and duly elected officers of the Society be continued with the procedure for election and duties as close to present provisions of the Constitution and By-Laws as is feasible under a corporate structure.

Inquiry was made as to whether the Society could be sued if it is incorporated. John J. Coughlin, legal counsel, stated that it could be sued as a corporation, but that, unincorporated as it is now, the members of the Society could be sued as individuals.

Ralph A. Fenton suggested that, before the contemplated incorporation is completed, an opinion be obtained from the Bureau of Legal Medicine and Legislation of the American Medical Association concerning the effect of such incorporation upon the liability of the Society under the tax laws.

It was voted that this resolution be adopted.

President Hunt announced that Benton County Medical Society had requested that the approved medical service bureaus cease making contracts to provide medical care to employees working or residing in Benton County.

George E. Henton stated that he had discussed this matter with William T. Johnson of Corvallis and had informed him that the State Society desires to cooperate with Benton County Medical Society in every possible way. He stated that he had asked Dr. Johnson to have Benton County Medical Society submit a written statement of the grievances of its members against the approved medical service bureaus, so that these grievances could be considered and adjusted. He stated that both Dr. Johnson and Dr. Fortner, secretary of the Benton County Medical Society, had indicated that they would be glad to have him attend a meeting of the society to conciliate existing difficulties.

It was voted to assure Benton County Medical Society that everything possible would be done to comply with its request that the approved medical service bureaus cease making contracts to provide medical care to employees working or residing in Benton County and to recommend to the Council that representatives of Benton County Medical Society be invited to attend an early meeting of the Council to discuss the matter.

L. S. Kent stated that a number of physicians in Linn and Benton Counties were disturbed over the activities of London Lloyds Underwriters in writing insurance covering occupational injuries and contracting for medical care with one of the approved medical service bureaus.

Ralph A. Fenton inquired as to whether London Lloyds Underwriters could legally write this form of insurance.

The assistant to the executive secretary stated that London Lloyds Underwriters could legally write this type of insurance for employers who rejected the benefits of the State Workmen's Compensation Act. He stated that, in the contracts with the approved medical service bureaus, London Lloyds Underwriters agreed to pay the costs of medical service, including fees of physicians, according to the schedule of the State Industrial Accident Commission.

It was voted that the matter of contracts for the medical care of occupational injuries between London Lloyds Underwriters and approved medical service bureaus be referred to the Council.

Committee on Nominations

Your Committee on Nominations recommends the following nominees for the offices to be filled at this session:

President-Elect.....	W. W. Baum, Salem
First Vice-President.....	George E. Henton, Portland
Second Vice-President.....	Grover C. Bellinger, Salem
Third Vice-President.....	John D. Rankin, Coquille
Secretary.....	Morris L. Bridgeman, Portland
Treasurer.....	J. E. Buckley, Portland
Councilors for three-year terms ending in 1943:	
First District.....	Earl M. Anderson, Portland
	Charles E. Sears, Portland
Seventh District.....	C. J. Bartlett, Baker
Councilor to fill unexpired term ending in 1941:	
Third District.....	H. Garnjobst, Corvallis

It was voted that this report be accepted for submission to the Society.

Dr. Montague, Chairman of the Committee on Nominations, reported that the Committee had voted to nominate E. H. McLean of Oregon City to succeed himself as a member of the Committee on Publication for the three-year term ending in 1943.

It was voted that the nominations be closed, the rules suspended, and the secretary instructed to cast a unanimous ballot for Dr. McLean. He was thereupon declared elected.

At 9:00 a.m., the House adjourned *sine die*.

GENERAL BUSINESS SESSION OF THE SOCIETY

Saturday, September 7

The business session of the Society was called to order by President Charles E. Hunt at 9:15 a.m. in the Palm Room of the Osburn Hotel.

Actions of the House of Delegates

The secretary presented the following report of the actions of the House of Delegates:

GENERAL ACTIONS

1. Approved the program of the National Physicians' Committee for the Extension of Medical Service and authorized Robert L. Benson to appoint a Nominating Committee to select officers for an Oregon Physicians' Committee for the Extension of Medical Service.

2. Adopted the reports of the Secretary-Treasurer, Delegate to the American Medical Association, Committee on Annual Session, Committee on Public Policy, Committee on Publication, Committee on Medical Education and Hospitals, Committee on Postgraduate Education, Committee on Malpractice, Committee on State Industrial Affairs, Committee on Charitable Medical Care, Committee on Public Relations, Committee on Maternal Welfare, Committee on Child Health, Committee on Cancer Study, Committee on Venereal Diseases, Committee on Conservation of Hearing, Committee on Conservation of Vision, Advisory Committee to the Woman's Auxiliary, Advisory Committee on Laboratory Standards to the State Board of Health, Committee on Teachers' Annual Examination Law, and the Bureau of Medical Economics, and adopted the recommendations contained therein.

3. Approved the report of the Committee on Honorary Membership in which it is recommended that Dr. Fred Gullette of Portland be elected to honorary membership and, in accordance with the By-Laws, this recommendation was referred to the Council for its favorable consideration.

4. Directed special attention to the great need of increased facilities and personnel at the Oregon State Hospital as outlined in the report of the Committee on Medical Education and Hospitals and urged that all the component societies strongly support an effort to have this need met at the coming session of the State Legislature.

5. Called attention to the continued growth of the membership and to the fact that the present membership of 856 is the largest in the history of the Society.

6. Called attention to the well-developed educational program of the Committee on Maternal Welfare under which the maternal mortality in Oregon has been reduced from 5.5 per thousand in 1935 to 2.6 per thousand in 1939.

7. Commended the work of the Bureau of Medical Economics and noted with gratification the progress made in carrying out the Society's program to provide medical care to employed groups.

Resolutions Adopted

Fourteen resolutions were adopted that were approved and adopted by the House of Delegates as recorded on page 469.

Amendments to the By-Laws Adopted

Adopted an amendment to Chapter 1, Section 5 to delete subsection (c) which reads: "Such persons or physicians shall not be eligible to active membership in this Society." This amendment will give full-time governmental employees the option of selecting the status in the Society they desire. In other words, they may, if they choose, become active members and pay full dues, or may remain associate members with the smaller fee attendant thereto.

Amended Chapter 5, Section 6 to read as follows:

a. The president, first vice-president, retiring president, secretary, president-elect and three other members of the Council shall form an Executive Committee. The president-elect shall be an ex-officio member, with no power to vote.

b. The Council shall select the three members to serve on the Executive Committee, each to serve for a period of three years, and until their successors are selected and qualified.

c. Each committee, agency or subsidiary organization seeking financial support from this Society shall present to the Executive Committee not more than 60 days after the annual session, a proposed program of activities for the ensuing year, with an estimate of the amount of money required to carry on its proposed program. The Executive Committee shall thereupon prepare a complete annual budget for the ensuing year and present the same to the Council for its consideration.

d. The Executive Committee shall also have power to direct the activities of the headquarters office, approve the employment of personnel, approve necessary emergency expenditures, care for any other emergency which may arise during the interim between meetings of the Council, and perform such other duties as may be required of it by the Council or the House of Delegates. A report of the interim activities shall be made by the committee at the next regular meeting of the Council.

e. A quorum of the Executive Committee shall consist of three members. A majority of such quorum shall be suf-

ficient to take any action which the committee is qualified to take.

Amended Chapter 1, Section 1, (a) to read as follows:

Active members shall be members in good standing of a component county or district society who are not delinquent in dues to this Society and who are duly licensed to practice medicine and surgery by the Board of Medical Examiners of the State of Oregon.

Amended Chapter 1, Section 2 (a) to read as follows:

Junior members shall be physicians who are duly licensed to practice medicine and surgery by the Board of Medical Examiners of the State of Oregon and who shall have joined their respective county societies in this state within one year after completion of hospital apprenticeship.

Election by the House of Delegates

Member of the Committee on Publication for the three year term ending in 1943, E. H. McLean of Oregon City.

MORRIS L. BRIDGEMAN,

Secretary

It was voted that this report be accepted and the actions of the House of Delegates contained therein be approved.

Necrology

The secretary read the names of the following physicians who died during the past year:

Eric Hjalmar East, Portland
 William Wells Brand, Portland
 Edward Napoleon Bywater, Grants Pass
 Charles Billington, Reedsport
 *John Franklin Calbreath, Portland
 *Reuben Harrison Mast, Myrtle Point
 Arley John Ostrander, Roseburg
 David Marcus Brower, Ashland
 William S. Cary, Rogue River
 Robert Percy Smith, Portland
 *Roy Sumner Stearns, Portland
 Walter W. Bruce, Portland
 Archie Kelley Higgs, Portland
 *George O'Bryant DeBar, Eugene
 *Frederick E. Adams, Eugene
 David Nathaniel Roberg, Portland
 *Milton Earl Wilson, Coquille
 *Eldridge G. Margason, Portland
 G. Cloud Eshelman, Portland
 *Ferdinand P. Fisch, Portland
 David Robinson, Tillamook
 Charles Alexander Ault, Enterprise
 *Virgil Ernest Dudman, Portland
 *George S. Whiteside, New York City
 *Member Oregon State Medical Society.

The members present then rose and paid silent tribute to the memory of these physicians.

Election of Officers

The recommendations of the House of Delegates for the various offices of the Society were adopted and officers were elected as listed on page 471.

John R. Montague suggested that the secretary have a trained assistant. He moved that the House of Delegates or the Council be authorized to appoint an assistant to the secretary. The motion was not seconded.

Karl H. Martzloff pointed out that the Society had a capable executive secretary to train new secretaries and that the Society cannot expect an understudy to the secretary to make the sacrifice of time and effort that would be necessary in connection with such a position, with no assurance that he will ever become secretary.

It was voted that the principle of appointing an assistant to the secretary be approved, but that the working out of such a plan be referred to the Council for action.

It was voted that the Society instruct the Council to favor the secretary with some physical evidence of its apprecia-

tion of his untiring efforts. This motion was carried over the protest of the secretary.

The business session of the Society was declared adjourned at 9:50 a.m.

MORRIS L. BRIDGEMAN,
Secretary

WOMAN'S AUXILIARY

CONVENTION NOTES

"The most pleasant convention of all," was the compliment paid the Eugene meeting by one of our loyal auxiliary members. Much of the credit for the success of the fourteenth annual convention goes to Mrs. C. E. Hunt, Mrs. M. G. Howard, Mrs. Carl Phetteplace and their committee of local women, whose complete plans for entertainment included even a visit on Thursday evening to the Murray Warner collection at the University. Undoubtedly the presence of national officers contributed greatly to the distinction of the convention, that of Mrs. V. E. Holcombe of Charleston, West Virginia, national president of the auxiliary to the American Medical Association, and Mrs. R. E. Mosiman of Seattle, national president-elect. Mrs. Holcombe, who installed the new state officers in conjunction with the always-inspiring remarks of Mrs. Wilson Johnston of Portland, appealed later to the group for individual subscriptions to *The Bulletin*, official publication of the national auxiliary which certainly we should all read to be well-informed.

Mrs. James M. Odell of The Dalles, president of the state group, who graciously presided over all meetings, was pleased that our guest speaker on Thursday should be the interesting Dr. Hans Lissner of the University of California Medical School, who addressed the ladies on "Hypothyroidism," showing slides, colored motion pictures, and even talkies to illustrate his remarks. At Friday's luncheon our speaker was Dr. R. W. Fouts of Nebraska, whose lecture on "The Doctor's Auxiliary" was well received.

Mrs. C. E. Sears of Portland was installed as president of the state group and appealed to the doctors' wives for continuance of their fine support and service. "We are links in a chain, and only as strong as the weakest link." Let us all work together to make this one of our finest auxiliary years.

Perhaps the best single report of the convention was given by Mrs. G. C. Bellinger, who brought to us the thrilling details of her trip to New York and the annual convention of the Auxiliary to the American Medical Association. This summary was so good that a number of members requested copies of it, and perhaps all of you may read it at a later date.

There were twenty-six at luncheon at the Town Club in Portland on Monday following the state convention, in honor of Mrs. Holcombe, our national president, who graciously gave us a few extra days in spite of her busy schedule which included visitation of several western state conventions and board meetings.

Election of Officers

Mrs. Roy Payne, First Vice-President; Mrs. Donald Long, Second Vice-President; Mrs. Ralph Stearns, Third Vice-President; Mrs. Lee Bouvey, Fourth Vice-President; Mrs. Merle Taylor, Corresponding Secretary; Mrs. Lawrence Serrurier, Recording Secretary; Mrs. Laurie Paul Lind, Treasurer; Mrs. George E. Henton, Auditor.

Directors for 2 years: Mrs. James M. Odell, Mrs. G. C. Bellinger.

Directors for 1 year: Mrs. O. C. Hagmeier, Mrs. C. J. Hollingworth.

Guests included a number from the Washington State Auxiliary, namely Mrs. L. S. Roach of Kalama, ex-president; Mrs. J. B. Blair, also an ex-president; Mrs. H. Leslie Frewing of Vancouver; Mrs. Clarence Smith of Seattle; and Mrs. John Junt Shephard of San Jose, California.

DORIS ABELE,
Press and Publicity Committee.

POSTGRADUATE LECTURE COURSES

DISEASES OF THE CHEST

A postgraduate course in diseases of the chest will be held at University of Oregon Medical School, Portland, December 13-14, conducted in cooperation with the Pacific Northwest section of the American College of Chest Physicians. The course includes diagnosis and newer aids in treatment of empyema, subacute bacterial endocarditis, pneumonia and cancer of the lung, including tuberculosis discussed from diagnostic, medical and surgical standpoints.

The program consists of twenty-eight addresses on various phases of the above mentioned topics. The speakers and leaders of discussions include representatives of the profession well known to the physicians of the Northwest. They present a practical view of present day therapy designed for physicians not necessarily limiting practice to diseases of the chest.

Registration fee is ten dollars. For further information and reservations address Dr. James S. Conant, University of Oregon Medical School, Portland.

ORGANIZATION ACTIVITIES

The Council of Oregon State Medical Society and its Bureau of Medical Economics met in Portland November 2, and selected Portland as the city in which the 1941 Session will be held.

Three delegates were chosen for the Pacific States Medical Executives' Conference: Charles E. Hunt, Karl H. Martzloff and W. W. Baum.

Again the Council refused endorsement of the C. H. Weston Company, otherwise known as the Oregon Medical Service, Inc.

The major action was to reject a direct contract providing indemnity for wives of employees who are now subscribers of approved medical bureaus, and to refer this problem to Dr. Leland, of the Bureau of Medical Economics of the American Medical Association, for his comments.

SOCIETY MEETINGS

COOS AND CURRY COUNTY MEDICAL SOCIETY

The regular monthly meeting of Coos and Curry County Medical Society was held at the home of R. J. Dixon, Marshfield, November 6, 1940. The meeting was called to order by John M. Simpkin, president. The paper of the evening was given by William Horsfall who first came to Coos Bay in 1893. His subject was "History of Early Medicine on Coos Bay." A copy of this historical review is to be sent to Miss Bertha Hallam, University of Oregon librarian.

LANE COUNTY AND CENTRAL WILLAMETTE COUNTY MEDICAL SOCIETIES

Lane County and Central Willamette Medical Societies held a joint meeting November 7 at Eugene. The subject was "Amebiasis." Diagnosis and diagnostic procedures were discussed by H. E. Johnstone of the Hooper Foundation, University of California Medical School. Treatment was discussed by Norman A. David of Portland.

MULTNOMAH COUNTY MEDICAL SOCIETY

The first regular monthly meeting of the Multnomah County Medical Society was held in Portland November 6. Charles E. Gurney spoke on "Plastic Surgery and Tumors of the Face" which he illustrated with numerous kodachrome slides. W. W. Baum, of Salem, President-Elect of Oregon State Medical Society, spoke on "Some Problems and Activities Confronting the Oregon State Medical Society." Ralph Fenton spoke on "National Problems of the Physician." John H. Fitzgibbon gave a "Report of the Activities of the House of Delegates of the A. M. A."

The second meeting of the month was held November 20. The Staff of Good Samaritan Hospital presented the program. The subject was "Shock." Aubrey M. Davis discussed "Surgical Aspects." D. C. Burkes discussed "Psychogenic Aspects." C. H. Manlove discussed "Laboratory Studies."

UMATILLA COUNTY MEDICAL SOCIETY

Umatilla County Medical Society met November 12, at the Pendleton Hotel. The scientific program comprised a discussion of the "Five Day Treatment of Early Syphilis" by Thomas S. Saunders of Portland and an illustrated talk on "Relationship of Plastic Surgery to Tumors of the Face," by Charles E. Gurney of Portland. The latter included very fine kodachrome slides.

YAMHILL COUNTY MEDICAL SOCIETY

Yamhill County Medical Society held a meeting at the Forrest Cafe in McMinnville, November 5. A short business meeting was held, but there was no speaker due to the fact that this was election night.

STATE BOARD OF HEALTH

ANNUAL LABORATORY EXAMINATIONS BEING MADE. Specimens are at present being sent out to the several laboratories of the state by the Oregon State Hygienic Control Laboratory for the purpose of checking the accuracy of the laboratories' venereal disease diagnostic procedures.

ARMY SUMMONS HEALTH OFFICER. D. R. Rich, Union County Health Officer was called to active military duty October 20. Dr. Rich is a First Lieutenant in the Medical Reserves in the Third Division and is stationed at Ft. Lewis for one year.

NEW HEALTH OFFICER APPOINTED. John R. Seeley has recently been appointed acting director of the Coos County Health Unit at Coquille. He will serve while J. Edward Dehne is receiving a year's postgraduate work in the School of Public Health at Johns Hopkins University.

HEARING CONSULTANT CONDUCTS TESTS. Warren H. Gardner, the hearing and vision consultant with the Division of Maternal and Child Health, in cooperation with the Health Units, the private physicians, and the schools of Baker, Clatsop and Marion counties, is conducting hearing tests of school children. He proposes to work out a long range program to aid the hard of hearing in the schools.

WOMAN'S AUXILIARY

AUXILIARY ACTIVITIES

The annual Health Education Day program and tea was held by Multnomah County Auxiliary, October 28, in the Medical Dental Building Auditorium. George E. Henton, one of the Councilors for the Oregon State Medical Society, spoke on "The Program of the Oregon State Medical Society to Provide Care for the Low Wage Group." To bring out important information for laymen present and to start discussion, specific questions were asked by auxiliary members.

Mrs. Charles Edwin Sears, chairman of Public Relations, and her committee were in charge of this meeting and through their efforts a gratifying number of representatives from club women's groups attended. Altogether, eighty-four members and guests were present. An attractive table was arranged and tea was served with four auxiliary members, prominent in club activities, pouring.

Mrs. Charles Edwin Sears attended the meeting of the Board of The National Auxiliary of The A.M.A. in her capacity as President of The Oregon Auxiliary. This meeting was held at the Palmer House in Chicago, November 29.

EVELYN WALL MCARTHUR,
Chairman Press and Publicity

MEDICAL NOTES

ROBERT DOW of the University of Oregon Medical School presented a Sigma Xi Lecture November 26 at Chapman Hall, Eugene. His subject was "Brain Waves and Their Clinical Importance." Dr. Dow is a recognized authority in this field. His research is being studied by the Rockefeller Foundation.

NORTH PACIFIC SOCIETY OF NEUROLOGY AND PSYCHIATRY held its third annual meeting at the University of Oregon Medical School Auditorium November 9.

D. C. HAGEMEIER of Astoria, who recently underwent two major operations at Columbia Hospital, is now reported convalescing satisfactorily.

T. HOMER COFFEN AND THOMAS M. JOYCE of Portland have been designated as the Oregon members of a national committee to help in obtaining and shipping medical and surgical equipment to Great Britain for use in emergency hospitals and field units.

THE COUNCIL OF THE PRESBYTERY of Portland is at present considering the acquisition of the Coffey Memorial Hospital.

JOSEPH B. BILDEBACK of Portland, as retiring president of the American Academy of Pediatrics, spoke at its annual meeting which was held in Memphis.

CARL V. REICHMAN has taken over the practice of Paul W. Sharp in Klamath Falls. He formerly practiced in Sacramento, California, and is a graduate of the University of California Medical School.

WASHINGTON STATE MEDICAL ASSOCIATION



FIFTY-SECOND ANNUAL MEETING, SEATTLE, AUGUST 24-26, 1941

MEMBERS OF EXAMINING BOARDS FOR SELECTIVE SERVICE

It has been announced that more than two hundred physicians in the State of Washington are listed as either serving or standing ready to serve in the Selective Service System Corps during the national emergency. They will serve on three types of boards: the local examining boards, advisory boards and induction boards. The process of examination runs through the three boards, the local board making the first examination and, where there is dispute in its reports, the advisory board then makes the examination for local acceptance or rejection of the draftee. The final and complete examination is made by the induction board. There are three induction boards in the state, one at Fort Lewis, another at Fort Vancouver and the third at Fort Wright, Spokane.

Following are the lists of the various boards, with the exception of the induction board for Fort Wright:

LOCAL EXAMINING BOARDS

Oliver Morhead, Ritzville	L. C. Stack, Chehalis
J. S. McElvain, Asotin	E. L. Barr, Centralia
J. C. Wood, Prosser	R. J. Sewell, Davenport
R. D. Mitchell, Wenatchee	O. A. LeCompte, Shelton
D. E. McGillivray, Pt. Angeles	L. S. Dewey, Okanogan
A. K. Harris, Camas	Keith Cameron, South Bend
J. H. Harrison, Vancouver	R. M. O'Brien, Newport
W. W. Day, Dayton	L. Scheyer, Puyallup
J. F. Christensen, Kelso	S. R. Sleep, Tacoma
B. J. Ellis, Waterville	T. E. Bowles, Tacoma
K. J. May, Republic	Tacoma
V. G. Backman <i>or</i>	W. B. McNerthney, No. 1
J. L. Greenwell, Pasco	K. S. Staats, No. 2
P. D. Brink, Pomeroy	D. H. Running, No. 3
M. S. Harmon, Montesano	H. C. Muir, No. 4
L. L. Goodnow, Aberdeen	R. W. Kite, Bellingham
H. C. Watkins, Sr., Hoquiam	B. G. Brooks, Anacortes
K. C. Ward, Ephrata	G. W. Shorkley, Mt. Vernon
C. B. Hoffman, Kent	J. L. Harris, Stevenson
L. M. Chaffee, Pt. Townsend	E. C. Leach, Arlington
B. J. Tipler, North Bend	J. A. Durrant, Snohomish
H. H. Sherwood, Kirkland	L. S. Trask, Everett
H. H. Adams, Renton	M. W. Conway, Medical Lake
R. E. Seth, Haller Lake	H. S. Fosskett, Opportunity
Seattle	Spokane
G. I. Birchfield, No. 1	E. B. Nelson, No. 1
Sylvester Wilhelmy, No. 2	R. N. Hamblen, No. 2
M. T. Dalton, No. 3	E. L. Reger, No. 3
R. E. Mosiman, No. 4	J. R. Condon, No. 4
L. H. French, No. 5	C. N. Canning, Colville
C. E. Guthrie, No. 6	T. R. Ingham, Olympia
F. L. Horsfall, No. 7	H. D. Fritz, Cathlamet
F. J. Clancy, No. 8	A. E. Lange, Walla Walla
C. A. Rutherford, No. 9	W. A. Hulbush, Bellingham
W. C. Speidel, No. 10	E. L. Brinson, Bellingham
C. C. Tiffen, No. 11	E. N. Layton, Colfax
T. C. Baldwin, Port Orchard	K. C. Brown, Grandview
J. P. Schutt, Bremerton	H. G. Lynch, Yakima
R. R. Pinckard, Ellensburg	C. R. Duncan, Yakima
W. C. Trowbridge, Goldendale	

ADVISORY BOARDS

1. *Spokane, Pend Oreille, Lincoln Counties*
(Spokane)
J. T. Bird, Spokane M. M. Patton, Spokane
C. R. Mowery, Spokane L. S. Gilpatrick, Spokane
D. H. Lewis, Spokane C. Smith, Spokane
2. *Stevens and Ferry Counties*
(Colville)
R. S. Wells, Colville A. W. Olds, Jr., Colville
W. J. Stark, Colville
3. *Adams, Whitman, Asotin, Garfield Counties*
(Colfax)
Troy Moore, Colfax J. A. Smith, Pullman
F. A. Bryant, Colfax
4. *Columbia, Walla Walla, Franklin Counties*
(Walla Walla)
R. W. Smith, Walla Walla J. W. Ingham, Walla Walla
W. A. Pratt, Walla Walla
5. *Okanogan, Douglas, Chelan, Grant Counties*
(Wenatchee)
E. D. Sawyer, Wenatchee R. S. Congdon, Wenatchee
E. J. Widby, Wenatchee
6. *Kittitas, Yakima, Benton, Klickitat Counties*
(Yakima)
E. S. West, Yakima G. W. Cornett, Yakima
J. E. Bittner, Jr., Yakima H. L. Hull, Yakima
L. L. Lugar, Yakima
7. *Whatcom, Skagit, San Juan Counties*
(Bellingham)
E. W. Stimpson, Bellingham G. F. Cook, Bellingham
A. M. Smith, Bellingham
8. *Snohomish and Island Counties*
(Everett)
S. L. Caldbick, Everett W. D. Smith, Everett
A. P. Duryee, Everett
9. *King County*
(Seattle)
A. C. Crookall, Seattle M. S. Jared, Seattle
C. H. Wheelon, Seattle C. W. Knudson, Seattle
I. A. Weichbrodt, Seattle C. Q. North, Seattle
R. T. Buckner, Seattle
10. *Clallam, Jefferson Counties*
(Port Townsend)
H. G. Plut, Port Townsend R. S. Crist, Port Townsend
L. E. Foster, Port Townsend
11. *Kitsap County*
(Bremerton)
R. L. Schutt, Bremerton D. H. Polk, Bremerton
F. W. Jones, Bremerton
12. *Pierce County*
(Tacoma)
W. B. McCreery, Tacoma S. F. Herrmann, Tacoma
W. W. Mattson, Tacoma F. A. H. Johnson, Tacoma
C. C. Leaverton, Tacoma V. E. Crowe, Tacoma
13. *Thurston, Mason Counties*
(Olympia)
H. Hartung, Olympia R. C. Brown, Olympia
G. W. Ingham, Olympia
14. *Clark, Skamania Counties*
(Vancouver)
C. B. Cone, Vancouver L. E. Hockett, Vancouver
A. W. Stevenson, Vancouver
15. *Grays Harbor County*
(Aberdeen)
O. R. Austin, Aberdeen H. C. Randolph, Aberdeen
M. P. Graham, Aberdeen J. F. MacDonald, Hoquiam
J. B. Kinne, Aberdeen
16. *Lewis, Pacific Counties*
(Centralia)
C. C. Bain, Centralia A. E. MacMillan, Chehalis
H. L. Pratt, Chehalis

17. Cowlitz, Wahkiakum Counties (Longview)

A. F. Birbeck, Longview J. S. McCarthy, Longview
C. J. Sells, Longview

INDUCTION BOARDS

OPHTHALMOLOGISTS

Fred Bentley, Seattle W. F. Hoffman, Seattle
L. L. McCoy, Seattle A. W. Howe, Tacoma
B. E. Washburn, Seattle D. H. Bell, Tacoma
H. L. Underwood, Vancouver

OTOLARYNGOLOGISTS

C. Q. North, Seattle C. M. Young, Aberdeen
A. T. Wanamaker, Seattle J. F. Barton, Longview
S. R. McCoy, Everett J. F. Gibson, Olympia
A. E. Hillis, Tacoma

ORTHOPEDISTS

H. J. Wyckoff, Seattle J. F. LeCocq, Seattle
Roger Anderson, Seattle E. F. Dodds, Tacoma

CLINICAL PATHOLOGISTS

D. H. Nickson, Seattle E. B. Potter, Seattle
B. T. Terry, Tacoma

INTERNISTS

J. R. Turner, Tacoma J. E. Hunter, Seattle
E. W. Janes, Tacoma W. S. Griswold, Bellevue
J. E. Nelson, Seattle H. J. Gunderson, Everett
J. N. Wilkinson, Seattle C. C. Reynolds, Tacoma

CARDIOLOGISTS

P. V. Von Phul, Seattle A. G. Friend, Seattle

GENERAL SURGEONS

R. T. Congdon, Wenatchee L. S. Trask, Everett
J. O. Loudon, Yakima E. O. Jones, Seattle
W. A. Taylor, Ellensburg Conrad Jacobson, Seattle
A. M. Smith, Bellingham C. W. Jones, Olympia
H. J. Whitacre, Tacoma L. W. Goodnow, Aberdeen
J. B. Blair, Sr., Vancouver

NEUROPSYCHIATRISTS

D. A. Nicholson, Seattle E. D. Hoedemaker, Seattle
G. E. Price, Seattle A. C. Stewart, Tacoma
E. C. Ruge, Seattle R. W. Brown, Tacoma

MEDICAL AND SURGICAL SUPPLIES FOR ENGLAND

Owing to the exigencies of the World War, an appeal has been made to American physicians to help supply medical and surgical deficiencies in England. The appeal is presented through "The Medical and Surgical Supply Committee of America," with representatives whose sole purpose is shipping of drugs, medicines and instruments to England. The appeal is urgent with the request for materials which physicians might otherwise discard.

Instruments of all types are solicited, with discretion exercised, however, in the matter of selection. Bandages do not depreciate with age as does adhesive, of which old stocks are not useful. Drugs are requested, with discretion in the matter of sending stocks which have deteriorated because of age, or which may be of doubtful value.

Donald V. Trueblood is the representative for Washington. Ross D. Wright is handling the collection for the Tacoma area and Richard E. Ahlquist for Spokane. A group of volunteers will canvass Seattle doctors for contributions. Other areas will soon be organized.

MEDICAL NOTES

WELFARE WORKERS MEET. Southwest Washington Area Institute, composed of county welfare officials and county commissioners, met at Hotel Monticello in Longview, No-

vember 16. The meeting was addressed by R. H. Fletcher of Seattle; I. C. Munger and George Johnson of Vancouver; H. Y. Bell of Chehalis; W. A. Johnson, Cowlitz County physician; James W. Haviland, medical advisor of the crippled children's program, and Purman Dorman of Seattle.

HOSPITAL LOSES. Proposed one-mill levy to finance a three story outpatient wing at King County Hospital in Seattle lost in the recent election November 5. Seattle Municipal League, prior to the election, stated that "widespread reemployment resulting from plane, shipbuilding and other national defense projects should permeate through our entire community and relieve some of the burden King County now is called upon to carry in free medical care."

FIELD HOSPITAL REUNION. The twenty-third annual banquet of the 163rd Field Hospital was held in Seattle November 16. This organization saw service in France for eighteen months during the first World War.

BASE HOSPITAL 50 REUNION. Annual reunion of Base Hospital 50, which served in France during the World War, was held at Hotel Sorrento in Seattle, November 11. H. T. Buckner of Seattle was toastmaster.

WHIDBY ISLAND HOSPITAL OPENED. Sand Point Hospital, located one mile east of Langley on Whidby Island, was opened in October. General hospital service is to be offered.

IRON LUNGS PURCHASED. Lumber and sawmill workers of Tacoma have recently donated a respirator to the Pierce County Hospital at Tacoma. The A. F. of L. Central Labor Council at Aberdeen has raised money to purchase similar equipment for Gray's Harbor County. Funds raised may be sufficient to purchase two such machines. A hobby show at Centralia was sponsored by the Mothercraft Club and was expected to raise sufficient funds to purchase a respirator for the twin city area.

LOCATIONS. Robert J. Kearns, Jr. and John F. Kearns have opened offices in the Peyton Building, Spokane, where their father practiced for thirty years. Both attended Gonzaga University, but Robert, Jr. took his medical training in St. Louis University while his brother attended Northwestern. Both interned at King County Hospital, Seattle. J. A. Nelson, formerly county physician for Cowlitz county, has entered general practice and will office with P. H. Henderson of Longview. T. W. Kelsey, formerly of Sacramento, California, has moved to Yakima, where he will specialize in eye, ear, nose and throat practice. Thomas H. Judge, who interned at Swedish Hospital, Seattle, has opened an office in Friday Harbor.

Norman E. Marsh has taken over the practice of M. Couperus of Chehalis. Dr. Couperus will spend next year doing postgraduate work in Columbia University in New York. Paul Beppler, for the past two years campus health officer at Pullman, has resigned his position and will take over the office of Jasper A. Smith of that city. Dr. Smith will study cardiology at Peter Bent Brigham Hospital in Boston next year. Silvio Vukov has located for practice at Renton.

WEDDING. Clyde Welsh and Vivian Henger, both of Seattle, were married at the University Presbyterian Church in that city November 1. Dr. Welsh has been called to active duty with the medical corps of the United States Naval Reserves at San Diego.

OBITUARIES

WILLIAM G. CAMERON of Tacoma died suddenly October 23, aged 67. He was born in Utica, New York, November 3, 1873, and spent his childhood with his sister in Michigan. He started working for himself at the age of eleven and worked his way through medical school at the University of Pennsylvania, graduating in 1897. He came to Tacoma in 1909 and after five years of practice went to Europe for postgraduate study in 1914 and again in 1922. He has always been active in medical society affairs and at the time of his death was editor of *Pierce County Medical Bulletin*. He had been president of the Pierce County Medical Society and had served two terms as State Representative from the 26th District. During the World War he served at Fort Lewis.

ADOLPH JULIUS DRINA of Seattle died of coronary thrombosis November 6, aged 51. He was born in Czechoslovakia November 23, 1889, and was brought to United States by his parents when an infant. He took his medical training at the University of Pittsburgh School of Medicine, graduating in 1911 and the same year received his final naturalization papers. He took postgraduate work in Vienna, after which he located in the Philippines for three years. He came to Seattle in 1915 and a year later went to Alaska, where he became head of the government hospital at Dillingham. In 1923 he went to Vienna and Prague, returning to Seattle in 1925 to practice cardiology.

MARY MARGARET JOHNSON of Sumner died October 20, aged 76. She had practiced for many years in Spokane. She received her medical education at the Cleveland Pulte Medical College, graduating in 1898. She came to Washington in 1901 and had retired several years ago due to ill health.

JOHN L. STILLINGS of Yakima died in the Veteran's Hospital in Walla Walla on November 6 after a long illness. He was 71 years of age. He was born in Connecticut and received his medical education at University of Louisville, Louisville, Ky., graduating in 1893. He practiced for many years in Connecticut and came to Yakima in 1920. During the World War he served with the medical corps with rank of Captain.

SOCIETY MEETINGS

COWLITZ COUNTY MEDICAL SOCIETY

Cowlitz County Medical Society met at a regular dinner meeting Wednesday evening, November 20, at Hotel Monticello, Longview. John Barton provided a fine feed of mouse meat from his recent hunt in northern Canada. Merle Moore of the University of Oregon Medical School gave a most interesting paper on "Gastrointestinal Allergy." Many gastrointestinal disorders can be traced to some form of allergy. He advised elimination diet and various protein tests in determining the cause of the allergic disorders. Earle DuBois, assistant professor in medicine at the University of Oregon Medical School, gave an interesting talk and demonstration on "Esophageal Tumors and Strictures." A case was presented where he used graduated dilators over a string. The auxiliary met the same evening at Hotel

Monticello, Mrs. H. D. Fritz and Mrs. Pearl Bowers being hostesses. J. L. Norris gave a talk on the "Requirements in Medical Preparedness for National Defense."

KING COUNTY MEDICAL SOCIETY

King County Medical Society held a meeting November 4 at 8:15 p.m. in the auditorium of Medical-Dental Building, Seattle, President M. Shelby Jared presiding. The following were elected to membership: J. D. Clark, J. D. Collins, L. A. Dewey and R. A. Maves.

Philipp Schonwald read a paper on "Fungus Allergies." The development of fungus spores into potent allergens was described with description of methods of culture of various molds. Symptoms and treatment were detailed. James A. Stroh discussed "Treatment of the Acute Asthmatic." He specified drugs and treatments that should not be employed, with a description of suitable drugs to be administered and treatment of the patient. Norman W. Clein presented a paper on "The Allergic Nose." He described symptoms both in the adult and child accompanying this condition. Treatment was described in detail, including surgery that may be needed in some cases. These papers were discussed by Harry Friedman and Gordon Spendlove.

PIERCE COUNTY MEDICAL SOCIETY

Pierce County Medical Society held a meeting in Medical Arts Building Tacoma, November 26, with H. J. Whitacre in the chair. Minutes of previous meeting were read and approved.

Dr. Whitacre stated that after the fine presentation of urology at the last meeting the suggestion had been made that typewritten copies available in the medical library would be valuable. He suggested that a typewritten copy of a paper presented at a meeting could be left in the library for the use of members.

Dr. McGovern, new resident in pathology at Tacoma General Hospital and Harry Andrews of Sumner were introduced.

The scientific program was a paper by C. V. Lundvick, on "Recent Advances in Ophthalmology of Interest in General Practice." In presenting this subject Dr. Lundvick covered a number of points of great interest to the general practitioner as well as the eye specialist.

The application of C. M. Jessico was given its first reading.

SNOHOMISH COUNTY MEDICAL SOCIETY

Snohomish County Medical Society held its November meeting in the library of the Medical Dental Building, Everett, November 7. John F. Beatty was elected president for the coming year. John Flynn was named vice-president and O. William Anderson was renamed secretary. Scientific portion of the program was contributed by Frederick Slyfield of Seattle who discussed "Diseases of the Chest."

SPOKANE COUNTY MEDICAL SOCIETY

At the regular meeting of the Spokane County Medical Society, held November 14 at Spokane, Joseph Beeman, Clinical Instructor in Pathology, University of Oregon Medical School, and Director of the Crime Detection Laboratory of the State of Oregon, gave an extremely interesting talk on "The Role of the Medical Profession in Criminal Investigation," illustrated by slides.

WALLA WALLA VALLEY MEDICAL SOCIETY

November meeting of Walla Walla Valley Medical Society was held at the Marcus Whitman Hotel in Walla Walla November 14. Guest speaker was O. M. Rott of Spokane. His paper was "What Can be Done to Prevent Deafness and to Aid Hard of Hearing." The paper was discussed by members of the society.

WOMAN'S AUXILIARY

WALLA WALLA RADIO PROGRAM

Walla Walla, Nov. 12, 1940.

I shall outline our radio health programs which have been broadcast since May, 1938. They are chosen in August from a list sent from the A. M. A. and are selected as well as possible to cover the health needs of our community. We broadcast every Tuesday 1:45 p. m. over KIJ, Walla Walla. A tentative program for the year is made out in September and subjects are assigned to the speakers. In assigning subjects I follow as closely as wisdom permits the activities of our health department, with lectures which

tie into their program. In 1938 and 1939 there were eleven speakers, five of whom were members of the auxiliary and six were representatives of lay organizations. The purpose of including the latter was to enlarge our radio audience and create greater interest in the program.

The speakers were selected from fields actively interested in public health and were not confined to members of the auxiliary nor the City of Walla Walla. Newspapers in adjoining towns frequently carry our announcements calling attention to their local speaker. I have mailed our radio program announcements to 150 public and private schools in the five counties from which our auxiliary draws its membership, and also a copy of the subjects chosen for radio programs over a period of three years. This program has grown in popularity, and in 1939 was declared one of the most popular broadcasts of KIJ. It is now carried in the regular advertisement of KIJ at the expense of the management of the broadcasting station. We begin our broadcasts the last week in August and discontinue them the last week in May. I feel that this fine work is in its infancy and each year presents new avenues of approach.

MRS. J. T. ROOKS, *State Program Chairman.*

IDAHO STATE MEDICAL ASSOCIATION



FORTY-NINTH ANNUAL MEETING, SUN VALLEY, JUNE 18-21, 1941

MEDICAL NOTES

HEALTH DIRECTOR APPOINTED. Hugh Stanton of St. Genevieve, Mo., has been appointed director of the North Central Idaho Health Unit to succeed Max B. McQueen who has been called to active duty with the army.

COLE TO HEAD DEFENSE PREPAREDNESS COMMITTEE. F. M. Cole of Caldwell has been appointed Idaho chairman of the committee on Medical Preparedness of the American Medical Association. He will take over the work of J. N. Davis.

OBITUARY

DR. JOSEPH NELSON DAVIS of Twin Falls was killed in an automobile accident near Burley, November 6. He was on his way to Salt Lake City, where he was to have been examined for promotion to captaincy in the Reserve Corps. Dr. Davis was so long identified with activities of Idaho State Medical Association that he was no doubt one of the most widely known and best loved physicians in the state. His services to his fellows were summarized in *NORTHWEST MEDICINE* for November, the tribute being published following award of life membership in the Association for long and valuable service. His services to the Association would have continued in his capacity as chairman of the committee on medical defense until such time as he might have been called to serve with the army.

Dr. Davis was fifty-eight years of age and had practiced in Idaho for twenty-eight years. He received his medical education at Kansas Medical College at Topeka, graduating in 1907. He started practice in Elk City in 1912 but moved

to Kimberly one year later. His practice there was interrupted only by his service with the Army during the first World War. In 1936 he moved to Twin Falls, where he was in active practice at the time of his death. Among many offices in the local and state societies his service as secretary and president of the State Association were outstanding. His administration was efficient and his correspondence exemplary. He leaves a host of friends and admirers not only in Idaho but throughout the Northwest.

SOCIETY MEETINGS

IDAHO FALLS MEDICAL SOCIETY

Meeting of the Idaho Falls Medical Society was held at Hotel Bonneville, Idaho Falls, November 2. Establishment of a City-County Health Clinic was discussed and action delayed. The society renewed an investigation to obtain more complete information.

NORTH IDAHO DISTRICT SOCIETY

October meeting of North Idaho Medical Society was held at Lewiston Country Club, Lewiston, October 23. The meeting was addressed by Don Palmer of Spokane who discussed "Medical Complications of Pneumonia" and Arthur E. Lien, also of Spokane, who discussed "Surgical Complications of the Disease." The meeting was also addressed by T. E. Schmitt of San Francisco, representing the Lederle Laboratories.

Fifteen physicians of the district were named as available specialists for service on examining boards at induction centers. The names were forwarded to the chairman of the State Committee on Medical Defense.

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, *AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES*, Vol. 23, No. 2, pages 201-206, March, 1939.

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The facilities of the institution are available to physicians who wish to use them for the care of their private patients.

BOOK REVIEWS

CLINICAL UROLOGY. By Oswald Swinney Lowlsey, A.B., M.D., F.A.C.S. Director of Department of Urology (James Buchanan Brady Foundation) of New York Hospital, and Thomas Joseph Kirwin, M.A., M.S., M.D., F.A.C.S. Attending Surgeon of above Department. Drawings by William P. D.usch. Vols. I and II, 1684 pp., \$10. The William Wilkins Co., Baltimore, 1940.

These books are definitely clinical and written for the general practitioner, surgeon and student. Its scope is wide from history taking to physical examination, urinalysis, tests of renal function, instrumental examination, roentgenography, anesthesia, embryology and anatomy. Individual genitourinary organs are treated in detail as to anatomy, injuries, diseases, operative and nonoperative treatment. It includes the female urethra, radium and roentgen ray therapy of the genitourinary tract.

The arrangement of these volumes completely and methodically covers the entire field of urology in both sexes. At the end of each chapter is a most extensive bibliography of the subject under discussion. The work is further enriched by the unexcelled medical artist, whose urologic drawings have brought him international fame. Each operative treatment is shown step by step, making the most difficult procedure appear simple and easy. There are also some photographs, photomicrographs and drawings in natural colors. It is thoroughly modern in its chapters on sulfanilamide, sulfapyridine, sulfathiazole, pen-tathol, gonorrhea, impotence operations, sterility, testicular hormones and related endocrines.

The work must be published under a subsidy as it seems impossible that two such beautiful volumes could be sold for the price of one. Its completeness, orderly arrangement, beautiful illustrations, up-to-dateness and convenient size highly commend it to those interested in diagnosis and treatment of urologic disorders.

A. H. PEACOCK.

OBSTETRICS IN GENERAL PRACTICE. By J. P. Greenhill, B.S., M.D., F.A.C.S. Professor of Obstetrics and Gynecology, Loyola University Medical School, Chicago, Co-Editor of the Year Book of Obstetrics and Gynecology, etc. With 112 Illustrations. 432 pp., \$3.50. The Year Book Publishers, Inc., Chicago, Ill., 1940.

This brief review of obstetrics, which is written as a companion volume to the author's book, "Office Gynecology," is not intended as a competitor of larger text books in obstetrics. Historical data, controversial discussions, extensive descriptions of anatomy have been omitted. The material is the type needed by the occasional obstetrician so that he may continue to be a safe practitioner of medicine. The book is exceedingly well written, its continuity excellent, and its subject matter well chosen. There is an abundance of clear illustrations, which amply intensify the interest of the reader. It should prove popular with the general practitioner.

R. P. SMITH.

PRACTICAL BEDSIDE DIAGNOSIS AND TREATMENT. By Henry Joachim, M.D., F.A.C.P., Chief of Medicine, Israel-Zion and Beth Moses Hospitals, Formerly Clinical Professor of Medicine, Long Island College of Medicine, etc. 834 pp., \$7.50. Charles C. Thomas, Springfield, Ill. and Baltimore, 1940.

This book is primarily concerned with diagnosis and treatment as practiced at the bedside. Laboratory proced-

ures are mentioned in passing but not stressed. In the author's own words, "the laboratory must cooperate, collaborate and supplement but should not dominate the diagnostic processes." The book is divided into sections, at the head of each being a short outline of the diseases to be considered under the particular heading. Each disease or condition is then considered from the standpoint of symptoms, physical signs, laboratory findings, differential diagnosis and treatment. The book represents results of years of personal experience in the field of internal medicine, upon which experience the author chiefly calls for his facts. It should be of great interest not only to the general practitioner but also to the specialist in internal medicine.

S. WEINSTEIN.

TABER'S CYCLOPEDIA MEDICAL DICTIONARY Including a Digest of Medical Subjects: Medicine, Surgery, Nursing, Dietetics, Physical Therapy. By Clarence Wilbur Taber and 14 Associates. 1488 pages with 273 illustrations. Cloth, Thumb-indexed \$3.00, Plain \$2.50. F. A. Davis Co., Philadelphia, 1940.

This dictionary introduces some new features. Page numbers are not consecutive, as each letter of the alphabet has its own page numbers. Practically all words are respelled for pronunciation. Diphthongs are eliminated, words commonly hyphenated are indicated as single words; the letter K is substituted for C before a hard vowel. While this volume is not as extensive as the large medical dictionaries, it is sufficiently comprehensive, including the latest terms and drugs, to answer the requirements of the average medical practitioner.

HUGH YOUNG. A Surgeon's Autobiography. With over 100 Drawings by William P. D.usch and Three Color Prints. 554 pp. \$5. Harcourt, Brace and Co., New York, 1940.

The fascination of this volume lies in the reality with which the author relates his experiences. It gives the reader a fuller appreciation of the modern surgery which this illustrious and scientific pioneer has so painstakingly dedicated to our generation. To the layman the book is a saga of modern medicine. The author's meteoric rise to the category of a great surgeon was accomplished by hard work and earnest application of his knowledge and inherent ability. The history of his early life is typical of any American boy reared in the western plains. With a pony between his knees and a rifle on his arm, he was master of his domain. The author had the exceptional oppor-

(Continued on Page 19)

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BOOK REVIEWS

(Continued)

tunity of association with the greatest medical men of the twentieth century. In 1897 he was chosen Chief of the genitourinary department of John Hopkin's University, where he developed a new specialty into a major field of medicine.

The chapters dealing with his World War experiences are most interesting. Working under most difficult conditions, lacking adequate help and equipment, they toil on until the last of the wounded are cared for. The setting up of a workable organization for control of venereal diseases in the A. E. F. and later for the whole allied army is a tribute to the genius and unlimited energy of the author. The closing chapters are interesting anecdotes of travels, social interludes, political intrigue, medical problems and comments on the lives and intimate associations of the great statesmen of this era. This book removes the veil which has encompassed medical science since its inception, and coming at a time when the public is demanding enlightenment, a widespread reading of the book should aid in bridging the widening gap between the medical practitioner and the questioning public.

A. D. CORLETT.

A SYNOPSIS OF SURGERY. Illustrated. By Ernest W. Hey Groves, M.S., M.D., B.Sc. (Lond.), F.R.C.S. (Eng.), Consulting Surgeon to the Bristol General and Municipal Hospitals, etc. Eleventh Edition. 714 pp. \$5.00. The Williams & Wilkins Company, Baltimore, 1940.

This being the eleventh edition in thirty-two years would indicate a degree of its popularity. It is an attempt to make an epitome of salient facts in surgical practice. By its methodical arrangement it aims to present diagnosis and treatment in a concise manner. The arrangement of headings, type and indented margins enable one to see the scope of the subject at a glance. There are no discussions of debated questions or modes of treatment. Definite statements are made as to etiology, diagnosis and methods of treatment, only main points of operation being detailed. The whole field of surgery is thus briefly compiled, essential features being readily observed and quickly reviewed.

THE CONTROL OF TUBERCULOSIS IN THE UNITED STATES. By Philip P. Jacobs, Ph.D., Director of Personnel Training and Publication, National Tuberculosis Association, etc. 387 pp., \$2. National Tuberculosis Association, New York, 1940.

To all persons interested in development of the program for control of tuberculosis, whether physicians or lay workers, this volume will stand out as one of the best that has ever been presented. Its story begins in 1887 with Sir Robert Philip of Edinburgh, who made the first attempt to establish some sort of control of the disease. It traces the benevolent spread of the idea of eradication through the early years in this country and development of recognition of tuberculosis as a public health problem. The death rate from tuberculosis in the United States in 1890 was 245 per 100,000. In 1938 it was 49. This means a reduction of 80 per cent which has been brought about or profoundly influenced by social, economic and biologic factors aided by the tuberculosis movement.

Fifty years ago there was not a single clinic or sanatorium bed for tuberculosis in this country. Now there

are more than 1000 clinics and something like 80,000 beds. The tuberculosis movement has stimulated the whole public health program in the United States. Through the direct emphasis on the value of good health as a means of prevention of tuberculosis and also through the example of organization set by the national, state and local associations, the tuberculosis campaign has given a greater impetus to many other specialized health programs and has forwarded the general official and nonofficial interest in public health.

FREDERICK SLYFIELD.

APPLIED PHARMACOLOGY. By Hugh Alister McGuigan, Ph.D., M.D., F.A.C.P., Professor of Pharmacology and Therapeutics, University of Illinois, College of Medicine. Illustrated. 914 pp. \$9.00. The C. V. Mosby Company, St. Louis, 1940.

"Pharmacology is the scientific basis of therapeutics." "Therapeutics is practical pharmacology." "The study of drug action presupposes some knowledge of functions of the normal body. Having this knowledge, we may ascertain how these functions are changed by drugs." The author aims in discussing pharmacologic action to present to the physician evidence and reason for each statement made. Also he connects physiology, biochemistry and pharmacology with clinical application. There is a discussion of theories and modes of pharmacologic actions, followed by conditions modifying the action of drugs. Pharmacology of respiration and the skin include air conditions, effects of irritants, germicides and antiseptics. There are discussions of metallic preparations, acids, alkalies and various drug preparations. There are chapters on physiology of organs with the effect upon them of pharmacologic preparations. There are considerations of edema, shock, the nervous system and drug effects related to them. Attention is paid to the chemotherapy of syphilis, vitamins and hormones. There is such a wealth of material in this volume that brief references fail to comprehend their substance or the value of their applications.

COMMUNITY HYGIENE. By Elizabeth Sterling Soule, R.N., M.A., Professor of Nursing Education, University of Washington, and Christine Mackenzie, R.N., M.A., Instructor in Nursing Education, University of Washington. 218 pp. \$1.75. The MacMillan Company, New York, 1940.

This book represents a system of teaching health education, including physical education, home economics and nursing education, combined in instruction concerning community hygiene as conducted at University of Washington. It deals with water supply, sewage disposal and housing, subjects which are not as generally understood as they should be. Under communicable diseases are given suggestions concerning their spread and means of control. Maternity, infancy and childhood are discussed with useful practical suggestions. This book is worthy of study on the part of one interested in these subjects.

Specialties in Medical Practice, recently published by Thomas Nelson and Sons, has been completed by publication of the chapter on Dermatology and Syphilology by Drs. Svend Lomholt and James L. Miller, and is ready for distribution. This chapter comprises 138 pages with 75 illustrations which are striking reproductions of conditions described. This chapter completes Vol. II of the set.

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**ANNUAL MEETINGS OF MEDICAL
SOCIETIES**

American Medical Association.....June 2-6, 1941—Cleveland

Idaho State Medical Assn.....June 18-21, 1941—Sun Valley

President, A. M. Newton Secretary, F. P. Jeppesen
Pocatello Boise

Oregon State Medical Society.....1941—Portland

President, K. H. Martzloff Secretary, M. L. Bridgeman
Portland Portland

Washington State Medical Assn.....Aug. 24-26, 1941—Seattle

President, H. D. Dudley Secretary, V. W. Spickard
Seattle Seattle

University of Wash. Extension Course.....July 14-18, 1941—Seattle

North Pacific Pediatric Society.....Jan. 25, 1941—Portland

President, S. G. Henricke Secretary, J. S. Bockstrand
Portland Salem

Pacific Coast Oto-Ophthal. Soc.....

President, R. J. Sprawl Secretary, C. A. Dickey
Spokane Son Francisco

Pacific Northwest Orthopedic Society.....1941—Spokane

President, A. O. Adams Secretary, N. R. Brown
Spokane Spokane

Pac. Northwest Medical Assn.....June 25-28, 1941—Spokane



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taste; 2 cups Roman Meal; 1
cup chopped raisins. (For
sweet milk use two teaspoons
baking powder instead of
soda). Mix sugar and shorten-
ing; add egg, well beaten;
add milk; sift in flour, soda,
salt, and nutmeg; add Roman
Meal and raisins. Mix well.
Steam one hour in pudding
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PNEUMONIA

THE OUTLOOK FOR THE TREATMENT OF PNEUMONIA, this Winter, is better than ever. DR. RUSSELL L. CECIL, (discussion of "Sulfapyridine in the Treatment of Pneumonia"—PLUMMER, N. and ENSWORTH, H. K., J. A. M. A., Nov. 18, 1939, 113:1853) summarizes it very aptly:

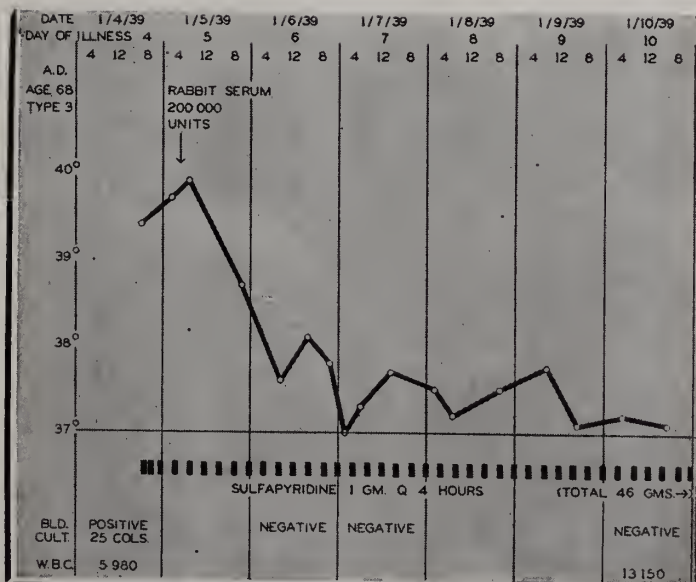
"... We have a double-barreled gun for the treatment of pneumonia, and whether we need both barrels or only one remains to be seen. DR. BULLOWA and DR. MACLEOD expressed it very well when they said that serum fortifies the pneumonia patient; sulfapyridine injures the pneumococcus. For the present we must keep our serum handy and use it in severe cases along with sulfapyridine, and we must continue to type our pneumonias in order that we may get all the better oriented with regard to this new form of therapy."

Unless either agent is specifically contraindicated, the combination of drug and serum should always be employed when:

- 1 — treatment is begun after the third day;
- 2 — two or more lobes are involved;
- 3 — the patient is over 40;
- 4 — the patient is pregnant or in the first week of the puerperium;
- 5 — blood culture is positive.

When used simultaneously with drug, smaller amounts of serum may be employed.

Information on sulfapyridine or pneumonia serum on request.



"Sulfapyridine in the Treatment of Pneumonia"—Plummer, N. and Ensworth, H. K.

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*Barrette, Pierce C., and McCoy, Kenneth M., West. Jaur. Surg., Obst. and Gynec., 47:328-330, June, 1939.

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ANNUAL MEETINGS OF MEDICAL SOCIETIES

American Medical Association.....	June 10-14, 1940—New York
Idaho State Medical Assn.....	Sept. 11-14, 1940—Sun Valley
President, F. M. Cole	Secretary, J. N. Davis
Caldwell	Twin Falls
Oregon State Medical Assn.....	Sept. 3-5, 1940—Eugene
President, C. E. Hunt	Secretary, M. L. Bridgeman
Eugene	Portland
Washington State Medical Assn.....	Aug. 26-28, 1940—Tacama
President, W. B. Penney	Secretary, V. W. Spickard
Tacama	Seattle
University of Wash. Extension Course.....	1940—Seattle
Narth Pacific Pediatric Society.....	Jan. 27, 1940—Portland
President, S. G. Henricke	Secretary, J. S. Backstrand
Portland	Salem
Pac. Coast Oto-Ophthal. Soc.....	1940—San Francisco
President, F. C. Cordes	Secretary, C. A. Dickey
San Francisco	San Francisco
Pacific Northwest Orthopedic Society, Sept., 1939—	Vancouver, B.C.
President, D. M. Meekison	Secretary, J. R. Naden
Vancouver	Vancouver

HOW THE FOOD, DRUG AND COSMETIC ACT MAY HELP IN CONTROLLING DISEASE

Ways in which the new Federal Food, Drug and Cosmetic Act may be expected to aid in the prevention and treatment of disease are discussed in *The Journal of the American Medical Association* for Dec. 16 by Theodore G. Klumpp, M.D., Washington, D. C., who states:

"While it is impossible to forecast to what extent the new act will ultimately aid the physician in his function of preventing and treating disease, one of the fundamental purposes of the law is to safeguard the public health.

"A few of the ways in which the act is directed toward this end are:

"The sections proscribing dangerous drugs and devices and injurious cosmetics and effecting more stringent control over deleterious ingredients in foods should bring about a lower general incidence of poisoning from these sources.

"The provisions which require disclosure of the active ingredients of drugs, adequate directions for use and warnings will aid the public in making more intelligent purchase and use of drugs. Similarly, the physician will be in a position to know the nature of the medication taken by his patients.

"Of particular importance is the protection provided by the act against marketing of new drugs which have not been adequately tested for safety. The enhanced safeguards against variations in the strength, quality and purity of drugs should be of particular interest to those who administer them. Likewise, the requirement that the labels of foods offered for special dietary use bear adequate information to inform the purchaser fully as to its value, for such use will enable physicians more accurately to evaluate and advise their patients.

"This act does not include within its scope jurisdiction over advertising. In a separate bill, the so-called Wheeler-Lea Act, passed March 21, 1938, Congress specifically delegated the regulation of advertising of foods, drugs, devices and cosmetics to the Federal Trade Commission."



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While neither Mead's Oleum Percomorphum nor Mead's Cod Liver Oil Fortified With Percomorph Liver Oil constitutes a substitute for sunshine, they do offer an effective, controllable supplement especially important because the only natural foodstuff that contains appreciable quantities of vitamin D is egg-yolk. Unlike winter sunshine, the vitamin D value of Mead's antiricketic products does not vary from day to day or from hour to hour.

DON BAXTER'S MEDICAL DIRECTOR

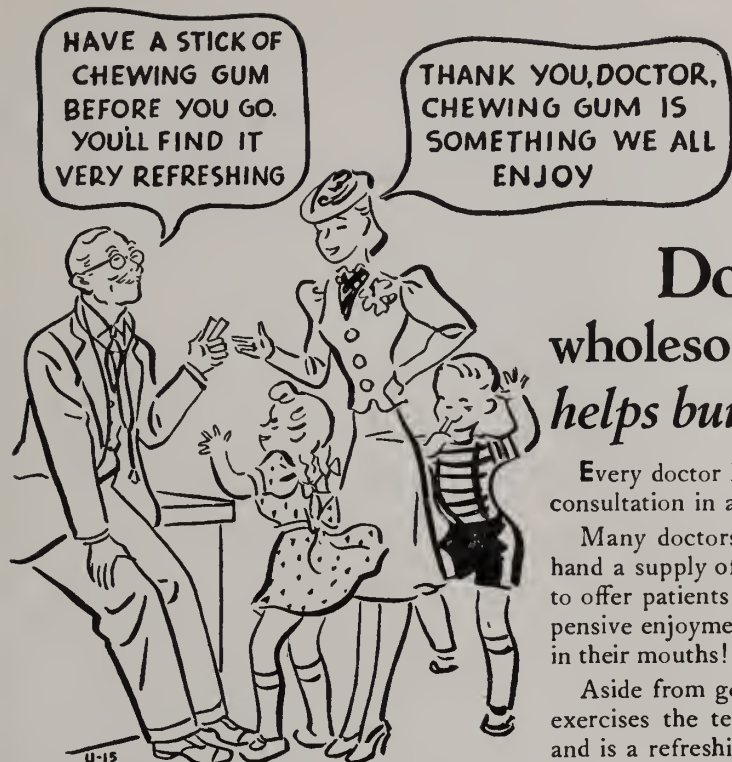
Dr. Lloyd L. Ely has been appointed medical director of Don Baxter, Inc., of Glendale, Calif. After graduating in medicine Dr. Ely practiced for several years in Chicago, holding appointments in two medical schools. Having a broad knowledge of therapeutics, in 1926 he became identified with the pharmaceutical industry, devoting his attention to several problems involved in development of therapeutic agents. He is an active member of the Society for Study of Internal Secretions.

PERFUSION PUMP IN NEW LABORATORIES

The Ciba Pharmaceutical Products, Inc., has withdrawn its exhibit in the New York World's Fair, which consisted of the Carrel-Lindbergh perfusion pump known as the artificial heart. This is now installed in its laboratories at Summit, N. J.

Ciba also sponsored the exhibits on "The Heart and Circulation of the Blood" and on "The Glands of Internal Secretion." It is proposed to install the latter in the Hall of Public Health at the American Museum of Natural History, Central Park West and 79th St., New York City.





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TRUTH ABOUT MEDICINES

PROPAGANDA FOR REFORM

Vitamin K: II. The Council on Pharmacy and Chemistry reports that since the publication of a preliminary report on vitamin K by Albert M. Snell in *The Journal* for April 15, 1939, there has been witnessed intense interest in attempts to isolate compounds having vitamin K activity. Very definite progress has been made in establishing the chemical nature of naturally occurring compounds, and many synthetic preparations having vitamin K activity have been prepared. Since further evidence of the therapeutic value of vitamin K preparations is also accumulating it seemed desirable to have a further review of this subject. A supplementary report was therefore prepared by Drs. Albert M. Snell and Hugh R. Butt at the request of the Council, and the Council authorized its publication. Drs. Snell and Butt concluded that various phases of the chemical, physiologic, biologic aspects and the clinical usefulness of vitamin K are developing so rapidly that a number of the views expressed in their present report may require modification within a comparatively short time; that it would therefore seem wise at the present moment to withhold any dogmatic statements until the recently developed chemical products exhibiting vitamin K activity have been studied more extensively from biologic and clinical standpoints. During the past few months the Council has conducted extensive correspondence relating to the adoption of a suitable nonproprietary name for vitamin K, but it is not prepared to make a definite recommendation until certain matters relating to priority have been settled. (J.A.M.A., Dec. 2, 1939, p. 2056.)

Vitamin B₁. The Council on Foods of the American Medical Association authorized publication of a report by Dr. George R. Cowgill on the need for the addition of vitamin B₁ to staple American foods. Dr. Cowgill concludes that there are grounds for believing that American diets as a whole are unsatisfactory with respect to the content of vitamin B₁. The examination of available food statistics as well as of recently collected American diets, the obser-

vations of clinicians concerning the high therapeutic value of vitamin B₁ in conditions hitherto not suspected to be due to lack of this factor, and the observations of the value of added vitamin B to the dietaries of many children all support this belief. It is believed that prosecution of a program fostering the addition of vitamin B₁ to staple American foods would be definitely in the interests of the public. (J.A.M.A., Dec. 9, 1939, p. 2146.)

Robinson's Pernicious Anemia Cure. In 1925 the Bureau of Investigation of the American Medical Association reported on a dangerous fake exploited by one W. A. Robinson of Sisseton, S. D. According to an article published in *The Journal* at that time (Oct. 24, 1925), "Robinson charged \$30 for his treatment, which he claimed would entirely remove the cause of pernicious anemia in twenty-five days. The treatment consisted of two parts; one was coarse, sharp sand and the other was sometimes a green colored liquid and sometimes some 'liver pills.'" Original letters written by Robinson at that time indicated that he was a man without any general education and was obviously ignorant of medicine. In 1928 the Post Office Department called on Robinson to show cause why a fraud order should not be issued against him. In order to escape having the mails closed to him, Robinson on June 14, 1928, executed and filed with the Post Office Department in Washington an affidavit in which he swore that he had "absolutely discontinued" his business and that it would "not be resumed at any time in the future." But in 1936 Robinson was again advertising his "cure." Finally on March 22, 1939, a fraud order was issued against W. A. Robinson of Sisseton, S. D., closing the mails both to the fraud and to the quack who conducted it. (J.A.M.A., Dec. 9, 1939, p. 2168.)

Oral Bismuth Therapy in Syphilis. Now, for the first time, appears a metallic preparation which seems to be useful when administered orally for the treatment of syphilis. This form of therapy is certainly not advisable except for intelligent, cooperative patients. It is essential that the patient take the medication regularly, as directed by the

(Continued on Page 30)

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(Continued from Page 29)

physician, or that the physician insist on the intramuscular route for therapy for uncooperative patients. There are, of course, certain instances in which the oral route of medication would be a valuable adjunct in syphilis therapy. It can be used with caution for those individuals whose business or profession necessitates occasional absences from the physician's supervision. It should prove useful for those rare persons who have unusual difficulty in taking intramuscular injections because of resultant pain and induration of the muscles. It is also possible that in selected cases of congenital syphilis and in some cases of cardiovascular and latent syphilis the oral route of medication would be distinctly useful. In the course of experiments on the utilization of sodium bismuthate in antisyphilitic therapy, Hanslik, at Stanford University, evolved preparations resulting from the interaction of sodium bismuthate, tri-isopropanolamine and propylene glycol, known as sobisminol mass and sobisminol solution. These products have been before the Council on Pharmacy and Chemistry for approximately three years, a period which was necessary for the accumulation and proper evaluation of evidence for the efficacy of the orally administered product. These products, as well as various marketed brands, have now been accepted by the Council. According to agreements between the board of trustees of Stanford University and each of the three firms already licensed to manufacture the product, every legal effort is being made to prevent the sale of capsules of sobisminol mass to the public other than on or by the prescription of the physician. Distribution of such a product to the public would obviously result in inadequate treatment of unrecorded and uncontrolled cases and thus would become a serious menace both to the individual and to the public health. Lastly it is pointed out that oral administration of bismuth compounds is not intended to replace the generally accepted use of bismuth preparations intramuscu-

larly, except where special conditions prevail. (J.A.M.A., Dec. 16, 1939, p. 2240.)

A "Diabetes Cure" Fraud. The Bureau of Investigation of the American Medical Association reports that a "diabetes cure" put out under a number of names and claimed to be "a formula of herbs used in Germany's great hospitals" has been debarred from the mails by the issuance of a fraud order against the Dia-San Laboratories, Inc., Dia-San Corporation and Albert Hofmann, president, of Fort Wayne, Ind. The "cure" was sold under such designations as "Hofmann's Medicinal Natural Herb Tea," "Dia-San," "Dia-San Diuretic R 212." According to an advertising booklet, the product is good not only for "diseases of the urinary organs," but also for "diseases of the prostate," "dropsical and renal disease," "gonorrhea" and "heart diseases." Microscopic analysis of the stuff by government chemists is said to have shown that it consisted of the leaves of buchu, bearberry and mint, stems of horehound herb, anise seed, licorice root, beans, corn silk, wintergreen, and traces of other herbs not named. Hon. Vincent M. Miles, Solicitor for the Post Office Department, cited medical evidence that, while the mixture when used as directed would be slightly laxative and by irritating the kidneys might slightly increase the flow of urine, such increase would have no valuable effect in removing the various poisons from the blood stream; and that there is no known drug or combination of drugs that will be effective in all cases of high blood pressure, kidney and bladder troubles, disorders of the prostate gland, dropsical and renal diseases, gonorrhea and heart trouble. Nevertheless the Dia-San treatment was represented to cure or benefit all such conditions and to enable the victims of them to regain and retain "lasting" good health. On May 8, 1939, this scheme was debarred from the mails by the issuance of a fraud order. (J.A.M.A., Dec. 30, 1939, p. 2440.)

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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HUMAN HEART IS LIKE AN ENGINE

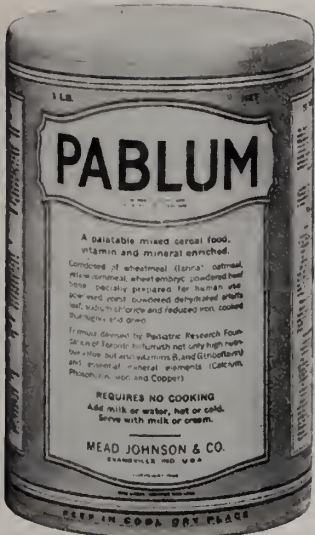
The human heart is an engine that functions with mirac-
ulous efficiency if its owner will cooperate by refusing to
overburden it unnecessarily, George A. Skinner, M.D., Ber-
keley, Calif., declares in *Hygeia, The Health Magazine* for
March.

The heart, like other engines, functions best after a
period of "warming up," he says. The sudden acceleration
of the heart that always accompanies suddenly increased
activities is likely to cause disturbance. For example, he
points out, "Numerous business and professional men are
so occupied with routine duties, most of which are seden-
tary, that they do little to keep up regular physical exer-
cise. Unfortunately, the usual efforts to get in a week's or
a month's exercise in a single afternoon are not a success,
never have been and never will be. Muscles to be in good
condition (and the heart is a powerful muscle) must be
used regularly and often, even if not for long each time.

A small amount of exercise taken daily is much more valu-
able to the whole physical economy than an excessive
amount occasionally. The former is of lasting benefit, the
latter likely to be not only harmful but often actually
destructive."

Practically every human being starts life with a perfect
"engine," Dr. Skinner declares. Although the heart is able
to protect itself partially against many influences that
affect other parts of the body, all acute diseases have some
effect on it, for it must often work under difficult condi-
tions during such periods. Such diseases as rheumatic fever,
syphilis and gonorrhea are ones which have the most pro-
nounced effects on the heart.

The heart may also be impaired by the formation of
damaging chemical substances in the body, as the result of
eating more than the body can utilize, not getting rid of
the wastes properly or imbibing or inhaling substances such
as alcohol, tobacco and drugs.



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NOT only does Pablum have a higher iron and calcium content than vegetables but, most important, clinical studies of children have demonstrated that in Pablum these minerals are in available form. Investigations by Stearns and Stinger, Schlutz, and Cowgill show that even such an iron-rich vegetable as spinach did not increase iron storage in the body, in fact, caused a loss in some instances. A factor responsible for this difference may be the higher content of *soluble* iron in Pablum—7.8 mg. per oz. Then, too, the water in which Pablum is cooked (by a patented process) is dried with it, whereas the cooking water of vegetables is usually discarded, with its valuable content of minerals and vitamins. Stearns reports difficulty in feeding spinach in sufficient quantities to affect the iron balance of children. Spinach and other highly flavored vegetables are often difficult to feed. Pablum, on the other hand, is a palatable cereal that can be fed as early as the third month, and for older children it can be varied in dozens of appetizing dishes. Recipes and samples available on request of physicians.

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ANNUAL MEETINGS OF MEDICAL SOCIETIES

American Medical Association.....	June 10-14, 1940—New York
Idaho State Medical Assn.....	Sept. 11-14, 1940—Sun Valley
President, F. M. Cole	Secretary, J. N. Davis
Caldwell	Twin Falls
Oregon State Medical Assn.....	Sept. 4-7, 1940—Eugene
President, C. E. Hunt	Secretary, M. L. Bridgeman
Eugene	Portland
Washington State Medical Assn.....	Aug. 26-28, 1940—Tocomo
President, W. B. Penney	Secretary, V. W. Spickard
Tacoma	Seattle
University of Wash. Extension Course.....	July 15-19, 1940—Seattle
North Pacific Pediatric Society.....	Jan. 27, 1940—Portland
President, S. G. Henricke	Secretary, J. S. Backstrand
Portland	Salem
Pac. Coast Oto-Ophthal. Soc.....	June 24-27, 1940—Spokane
President, R. J. Sprowl	Secretary, C. A. Dickey
Spokane	San Francisco
Pacific Northwest Orthopedic Society, Sept., 1939—Vancouver, B.C.	
President, D. M. Meekison	Secretary, J. R. Naden
Vancouver	Vancouver



DESCRIBES A METHOD OF TAKING X-RAY PICTURES OF CHAMBERS OF HEART

A method for taking x-ray pictures of the chambers of the heart and the blood vessels of the lungs and chest, thus making for more precision in the diagnosis of ailments affecting those parts, is described by George P. Robb, M.D., and Israel Steinberg, M.D., New York, in *The Journal of the American Medical Association* for February 10.

The two men point out that although the x-ray has become almost indispensable to the accurate diagnosis of heart and lung diseases it has given an incomplete picture because the four separate chambers of the heart and their component parts are shown by one shadow and the blood vessels of the chest are seen indistinctly if at all. Diagnosis therefore has had to rely on such indirect evidences of disease as alteration in the size, shape and pulsation of the heart and blood vessel shadows.

By injection of a harmless substance, diotrast, which is impenetrable to the x-rays, and taking x-ray pictures as the substance passes through the heart and blood vessels of the lungs and chest, the two doctors obtain pictures in which the involved parts stand out in contrast to their surroundings.

"No serious consequence," Drs. Robb and Steinberg point out, "has followed 486 injections of 233 patients, many of whom were seriously ill. The method is safe and practical. The technic is exacting, requiring dexterity, precision, speed, teamwork and strict adherence to detail. Proficiency, however, can be acquired through training and practice, and successful performance should be within the capability of every medical center."

The method is most useful in disorders such as widened saclike areas of arteries or veins filled with blood (aneurysm), disease of the aorta, malformations of the heart and veins at birth and disease of the tissues around the heart.

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COUNCIL ON PHARMACY AND CHEMISTRY HAS BEEN SERVING PUBLIC 35 YEARS

The importance of the Council of Pharmacy and Chemistry of the American Medical Association in furnishing expert medical opinion in connection with the carrying out of the new Food, Drug and Cosmetic Act is emphasized by an editorial in *The Journal* of the Association for February 10 which summarizes the Council's accomplishments on the completion of its thirty-fifth year.

While it might be supposed that with the enactment of the new law there would remain little need for the Council's work, the editorial points out that the importance of this act is mainly in the field of drugs sold for self medication and that Congress did not give the Food and Drug Administration power to determine whether or not a drug is a worthwhile addition to the medical equipment.

Describing the work of the Council, the editorial says that its first task was to expose the most extraordinary of the deceptions practiced on the medical profession. Then came the more serious task of passing on proprietary drugs detailed to the medical profession. Valuable products were listed in New and Nonofficial Remedies, which was originally a column of *The Journal* and was later expanded into a book to which periodic additions were made as the Council's scope widened. Products are admitted according to a set of rules published for the information of physicians and manufacturers. "Remuneration in any form is never accepted for the consideration of submitted preparations," the editorial states.

While the rules now governing the acceptance or rejection of remedies are practically the same as those adopted in 1905, the editorial says, "an additional rule was adopted about fifteen years ago to the effect that concerns whose policies were contrary to scientific medicine and inimical to

the best interests of the public and the medical profession would not be recognized by the Council.

"Advertising claims employed by manufacturers of drugs for products accepted by the Council have, in the main, attained standards of accurateness and truthfulness not found in any other field of marketing or in the entire medical world outside the United States. More and more physicians ask detail men whether or not their proprietary products have been accepted by the Council and if not, why not.

"Those firms which have been following the leadership of the Council have already found that it is much easier to comply with the new Food, Drug and Cosmetic Act and the Wheeler-Lea Act in the case of their accepted medications than have some firms which have tried to ignore the Council by extolling nonaccepted preparations."

DECREASING OILINESS OF THE HAIR

It is impossible to reduce the amount of oil secreted by the sebaceous glands, *Hygeia*, *The Health Magazine* says in reply to an inquiry on how to decrease oiliness of the hair. "The usual advice," according to *Hygeia*, "is to use one of the popular synthetic liquid soaps for shampoo, because they leave the hair drier than the other soaps made from fats and oils. The sebaceous glands are independent organs and their pattern of secretion varies with individuals, the same as any other organic function. During the fourth decade of life the sebaceous glands usually secrete less than before this time, but this is true of most of the secretory organs of the body.

"Shampooing the hair once every other week is a good average, but some excessively oily hair may be benefited by more frequent washings."



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BABIES like the taste of Pablum, yet it furnishes more iron than does any other food in the child's daily diet. Investigations show that even such an iron-rich vegetable as spinach does not increase iron storage in the body, but that the iron in Pablum is present in available form.* Although Pablum is higher in total and in soluble iron, vegetables are also valuable in the child's diet, supplying vitamins, minerals and roughage.

*Bibliography on request. Mead Johnson & Company, Evansville, Indiana, U.S.A.

Pablum consists of wheatmeal (farina), oatmeal, wheat embryo, cornmeal, beef bone, brewers yeast, alfalfa leaf, sodium chloride and reduced iron

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SUICIDE MERITS ANALYSIS RATHER THAN CONDEMNATION

A plea for an objective analysis of suicide extending beyond the superficial condemnation which results from attributing the act to cowardice or insanity is made by Douglas E. Lawson, Ph.D., Carbondale, Ill., in *Hygeia, The Health Magazine*, for April.

"In medieval days men blamed the devil for suicides," he points out. "Nowadays this monistic fallacy persists, though by a different manifestation. We simply say that the victim was crazy. And instead of commiseration we may feel contempt.

"Remember that the would-be suicide has suffered intensely before reaching the extremity of attempting to end his own existence. The urge to live is strong and does not yield until it is exhausted in the vain act of beating itself against the bars of unrelenting circumstances.

"For adults in general, the chief causes are melancholia and physical pain. If more of the victims of melancholia understood that it is a sickness that will abate in time, there would be fewer suicides."

Such a person, the author suggests, might be helped by sympathetic advice, such as the suggestion to give himself two or three months in which to make some friends and to establish a routine of living and orient himself in a definite plan of work, however simple. If he has failed in business and feels disgraced, he should try to start over on a scale so simple that he is sure of success to a modest degree.

"The potential suicide can often be helped by a friend's pretense of illness or despair, which thus requires encouragement and sympathy, diverting the discouraged person's mind from his despondency.

"Several scientific studies attribute more suicides to pain

than to any other factor," Dr. Lawson says. "Also ranking high are financial failure, disgrace, illness, convictions for crime and loneliness. Grief and disappointments of all kinds take their toll as do jealousy, fear, love sickness and other emotional disorganizations. Occasionally a person kills himself in an angry tantrum. Others have been known to die by their own hands in experiments to investigate the possibility of life after death. In some cases the chief cause has been lack of sleep. Malnutrition has sometimes been a factor.

"Only a few authenticated cases of extremely young suicides have actually been recorded. In one case a 4-year-old Wyoming boy drowned himself in a pool after disclosing his intention of so doing. As a rule, child suicides are motivated by fear of punishment, failure at school, nostalgia or adolescent social maladjustments, including cases of love sickness and jealousy.

"A study of authentic data reveals the fallacies of many of our cherished ideas. For example, suicide in this country is *not* rapidly increasing. Another popular misconception has had to do with the supposedly high suicide rate of the United States in comparison with other countries. The fact is that this country has about as low a rate as any other large nation.

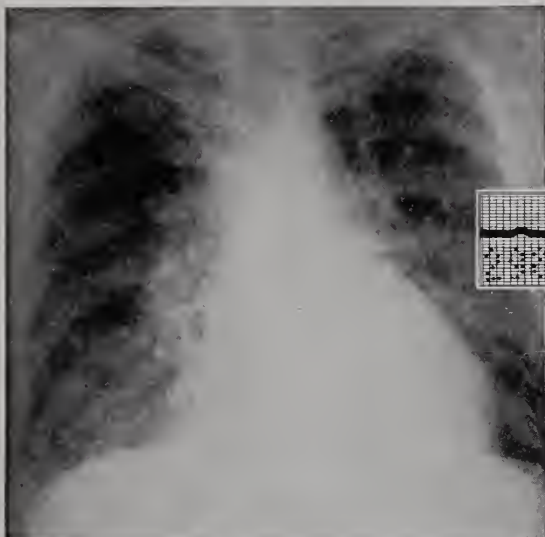
"Again, much has been said of the supposedly high rates in general among youths. But facts show that over half the suicides are among the oldest fifth of the population.

"All evidence shows that occidental men are about three times as apt to commit suicide as are occidental women. However, at adolescence the female rate sometimes rises above that for males. Unmarried persons commit suicide more frequently than do the married. The white man is invariably from three to five times as likely to kill himself as is the Negro. The highest rates are in large urban centers."

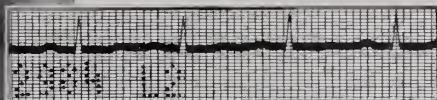
STUDIES IN THE AVITAMINOSES



This page is the sixth of a series on vitamin deficiencies presented by the research division of The Upjohn Company because of the profession's widespread interest in the subject. A full color, two-page insert on the same subject appears in the May 25 issue of The Journal of the American Medical Association.

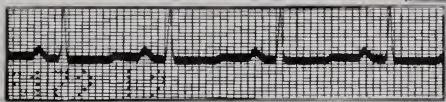


Teleoroentgenogram, at left, of alcoholic patient with severe thiamin deficiency, marked cardiac dilatation, congestive heart failure. X-ray below, taken after three weeks of thiamin chloride therapy, shows marked reduction in cardiac size. Patient received no digitalis.

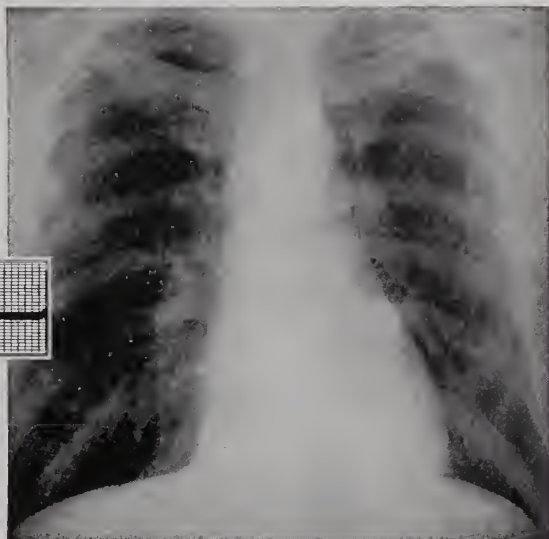


Electrocardiogram on admission (Lead 2). Note the low voltage of the QRS complexes and of P and T waves. (Left)

After three weeks of thiamin chloride therapy. Note increased voltage, return of P waves. Later tracings showed normal T waves. (Lead 2)



Courtesy of Henry Field, Jr., M.D.,
University of Michigan.



The Cardiac Manifestations of Vitamin B₁ Deficiency

Vitamin B₁ apparently exerts no specific influence upon the normal heart, but profound deficiency resulting from drastic deprivation may lead to cardiac derangements which are as characteristic as the neural changes at times resulting from thiamin deprivation. In the cases reported, physical examination disclosed that the heart was enlarged to both the right and the left, although on postmortem examination of patients who died of extreme deficiency the enlargement was seen predominantly in the right auricle and ven-

tricle. The former was dilated and paper thin; the wall of the latter appeared thickened and its chamber enlarged. Some difference of opinion exists concerning the mechanism of the increase in cardiac size, since both hypertrophy and edema have been observed by different investigators.

The clinician, through whose courtesy the x-rays and electrocardiograms shown above are made available, states that administration of thiamin chloride promptly led to reduction in the cardiac silhouette.



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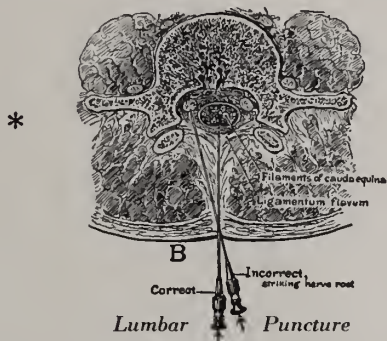
RATIO OF MARRIAGEABLE WOMEN AND MEN DISTURBED BY WAR

"One of the more serious effects of war is the depletion of young men and the disturbance of the ratios of marriageable males and females," *The Journal of the American Medical Association* for May 4 states. "In a recent brief review of this subject in the Statistical Bulletin of the Metropolitan Life Insurance Company it was pointed out that 72 per cent of German military deaths and approximately 55 per cent of the French losses in the last great war were men under 30. This situation was reflected in the postwar ratios of the two sexes. The French census of 1911 showed substantially the same number of males as females in every five year age group; the 1921 census showed an excess of 261, 206 and 176 females per thousand males in the age groups 25 to 29, 30 to 34 and 35 to 39, respectively. In Germany likewise the prewar census of 1910 showed substantially equal proportions of males and females in each five year group. The 1925 census, however (the first taken by Germany after the war), showed an excess of 150 women per thousand men at ages 25 to 29, 259 per thousand at ages 30 to 34 and 181 per thousand at ages 35 to 39.

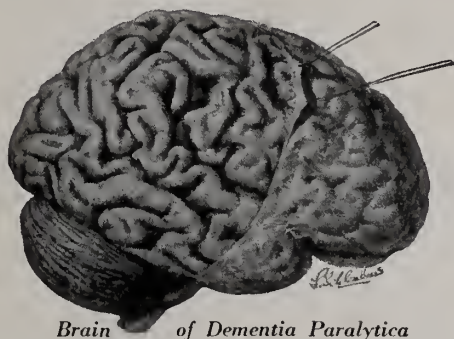
"Some of the results, such as the great increase in the proportion of marriages in the postwar period in which the groom was much older than the bride, were quite obvious. Another effect, although perhaps inextricably intertwined with economic factors, was the continued fall in the birth rate after the war. Clearly the actual battle losses are matched by losses in future population due to reductions in the birth rate. Furthermore, the relatively imponderable social effects of a deficiency of men, especially in certain age groups, must profoundly disturb the normal life of nations."

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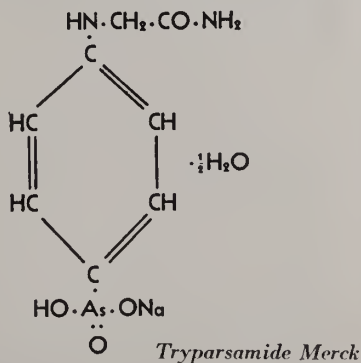
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* (*The Modern Treatment of Syphilis*, by Joseph Earle Moore, M. D. Charles C. Thomas, Springfield, Ill., and Baltimore, Md., 1933.—By courtesy of author and publisher.)

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ABBOTT LABORATORIES FELLOWSHIPS IN CHEMISTRY

For the academic year 1940-41, Abbott Laboratories has established fellowships in several universities with important departments of organic chemistry and biochemistry. The fellowships, carrying stipends of \$650 per year, will be available to graduate students in the last or next to last years of graduate work leading to the doctorate degree. The recipients, who are to be selected by the universities in which their work is being done, are not limited as to the subjects on which they will work.

The object of the fellowships is to provide means for the carrying on of additional scientific work in American universities. The future progress of chemical developments in this country will depend upon the availability of well-trained and qualified men, and it is the intent of Abbott Laboratories in establishing these fellowships to lend encouragement in these general fields. Grants will be made to the following universities:

In organic chemistry: Cornell, Harvard, Illinois, and Michigan.

In biochemistry: California, Columbia, and Cornell.

PRESCRIPTION REQUIRED IN 26 STATES FOR BARBITURATES SOLD TO PUBLIC

Retail sales of the harhiturates to consumers may now be made only on prescription by a physician in twenty-six states, as the result of laws enacted up to May 1, 1940, the American Medical Association reports in the Association's *Journal* for May 18.

The states enacting such laws are Alabama, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Minnesota, Mississippi, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee,

Vermont, Virginia, Washington and West Virginia. In addition Oklahoma has a law providing that barbiturates may be sold to consumers either on prescription or without a prescription if the pharmacist records the sale in much the same manner as he is generally required to record sales of poisons.

"The laws that have been enacted follow no well defined pattern with respect to the framework of the law or to the drugs included," the report states. "In practically all of the states compounds, derivatives and preparations of the included drugs are covered. In ten states the laws definitely either forbid the refilling of prescriptions or provide that they may be refilled only on the direction of the prescriber. In some of the laws pharmacists are required to retain prescriptions for barbiturates or other included drugs in their files for a definite period of time."

SUMMER-TIME USE OF MEAD'S OLEUM PERCOMORPHUM

During the hot weather, when fat tolerance is lowest, many physicians have found it a successful practice to transfer cod liver oil patients to Mead's Oleum Percomorphum. There are at least two facts that strongly indicate the reasonableness of the above suggestion: (1) In prematures, to whom cod liver oil cannot be given in sufficient dosage without serious digestive upset, Mead's Oleum Percomorphum is the antiricketic agent of choice. (2) In Florida, Arizona and New Mexico, where an unusually high percentage of sunshine prevails at all seasons, Mead's Oleum Percomorphum continues increasingly in demand, as physicians realize that sunshine alone does not always prevent or cure rickets. Mead Johnson & Company, Evansville, Indiana, invite you to send for samples of Mead's Oleum Percomorphum for clinical use during the summer months to replace cod liver oil.

TRUTH ABOUT MEDICINES

PROPAGANDA FOR REFORM

The Treatment of Habitual Abortion With Vitamin E. The Council on Pharmacy and Chemistry authorizes publication of a report, prepared for it by one of its referees, on the value of vitamin E in the treatment of various disorders, particularly with reference to its alleged usefulness in habitual abortions. A critical examination of the evidence presented during the last eight years led to the following conclusions:

Claims that vitamin E (wheat germ oil) is of value in the treatment of menstrual disorders, failure of lactation and the vaginal pruritus after the menopause cannot be accepted because of lack of sufficient clinical evidence.

The claim that vitamin E is of value in the prevention of habitual abortion cannot be accepted because of the lack of convincing clinical evidence. The diagnosis of habitual abortion in many of the published reports is open to question; the great variation in dosage of vitamin E and the lack of evidence that the preparations used were active make it difficult to attribute any effects claimed for it to the vitamin. Moreover, the expectancy of spontaneous cure in cases of so-called habitual abortion has not been accurately established.

Although the administration of wheat germ oil probably does not cause the development of neoplasms, unfavorable effects may follow its use in certain cases. These effects are usually not serious.

The published results of the treatment of habitual abortion with vitamin E are sufficiently encouraging to justify further clinical experiment. Such experiments are justified only if preparations of vitamin E of known activity are used and if adequate diagnosis and clinical control can be established. (*J. A. M. A.*, June 1, 1940, p. 2214.)

Digitalis for Obesity. Too much publicity has apparently been given to the reports of a method of weight reduction which involves administration of digitalis for suppressing the appetite. Whether or not digitalis can produce a loss of appetite without harmful effects is debatable. The work of Hatcher and Weiss in particular has shown that the nausea produced by digitalis is a reflex the sensory organ for which does not appear to be located in the heart. Thus the type of nausea which digitalis produces is at least partly due to factors other than gastric irritation. Indeed, nausea and vomiting are toxic symptoms of digitalis and constitute a warning to decrease or stop the administration of the drug. Confirmatory evidence for this method of reducing body weight is lacking. The method cannot be generally recommended unless its efficacy and safety have been thoroughly demonstrated by carefully controlled observations. (*J. A. M. A.*, June 8, 1940, p. 2311.)

"Sulfathiazole" and "Sulfamethylthiazole," the Nonproprietary Names for 2-Sulfanilamidothiazole and 2-Sulfanilamido-4-Methylthiazole. The Council on Pharmacy and Chemistry reports that the terms "sulfathiazole" and "sulfamethylthiazole" are acceptable to Dr. Fossbinder, who is credited as the discoverer of 2-sulfanilamidothiazole and 2-sulfanilamido-4-methylthiazole. Inquiry was also made of Dr. E. J. Crane, chairman of the Committee on Nomenclature of the American Chemical Society, who also informed the Council that, in his opinion, there was no objection to offer to these nonproprietary names. Accordingly, the Council adopted the recommendation of its Committee on Nomenclature that the terms "sulfathiazole" and "sulfamethylthiazole" be accepted as nonproprietary designations for 2-sulfanilamidothiazole and 2-sulfanilamido-4-methylthiazole, respectively. The adoption of these terms does not indicate at this time the acceptance of the substances. (*J. A. M. A.*, June 15, 1940, p. 2387.)

Misbranded "Patent Medicines." The Bureau of Investigation of the American Medical Association reports that the following "patent medicines" have been the subject of prosecution by the Food and Drug Administration of the Federal Security Agency which enforces the Food, Drug and Cosmetic Act: *Benaris* (Benaris, Cleveland), essentially liquid petrolatum, camphor and ephedrine. *Gordon Red Liniment* (McConnon & Co., Winona, Minn.), essentially a small amount of camphoraceous material and red pepper in a solution of carbital (ethyl ether of diethylene glycol) and water, colored with a red dye. *Neu-Life* (Health Laboratories, Sacramento, Calif.), essentially plant material including small percentages of calcium, magnesium, iron, iodine, sulphur, phosphorus, potassium and sodium. *Normal Nux* (Norden Laboratories, Lincoln, Neb.), containing not more than 11 grains of strychnine and brucine sulfates per fluidounce. *San-O-Sen Antiseptic Spray* (San-O-Sen Laboratories, Chicago), essentially water, pine oil, soap and a small amount of glycerin. *Zilatone* (Drew Pharmacal Co., Buffalo), tablets containing phenolphthalein, bile salts, pepsin, pancreatin and extracts of plant drugs, including red pepper, nux vomica and a laxative. (*J. A. M. A.*, June 22, 1940, p. 2488.)

Desoxycorticosterone. The Council on Pharmacy and Chemistry reports that it has had under consideration for some time preparations of the adrenal cortex. When desoxycorticosterone was synthesized and marketed as an acetate for clinical use, it was anticipated that much of the inaccuracy and unreliability of adrenal cortex therapy associated with the use of extracts of the adrenal cortex gland would be eliminated, since the administration of this potent steroid on a basis of dosage by weight appeared to offer advantage over the administration of adrenal cortex extracts, which are rather unsatisfactorily assayed on laboratory animals. The early reports of dramatic clinical success in the treatment of Addison's disease were held most promising. Soon after desoxycorticosterone was employed in Addison's disease, the Council learned of the occurrence of significant untoward reactions and, in several cases, actual fatalities. One of the most striking effects obtained with this substance was hypertension, which in some cases resulted in cardiac failure and death. There has been sufficient confirmation of these results to warn against the indiscriminate and excessive use of this substance in routine therapy. Adequate evidence of another sort has also led to the conclusion that desoxycorticosterone acetate does not possess all the properties of the adrenal cortex gland and that the synthetic principle, therefore, does not furnish complete replacement therapy. In view of the possible widespread use of desoxycorticosterone acetate, the Council requested Dr. Edgar S. Gordon of the University of Wisconsin Medical School to prepare a review of the physiologic and clinical data obtained with this substance up to the present time. The Council authorized publication of Dr. Gordon's article, "The Use of Desoxycorticosterone and Its Esters in the Treatment of Addison's Disease" and it appears as a part of the Council's report. (*J. A. M. A.*, June 29, 1940, p. 2549.)

Snake Venom Solution (Moccasin). (Lederle Laboratories, Inc.) Not acceptable for N. N. R. In 1935 the Council on Pharmacy and Chemistry published a preliminary report on the use of Snake Venom Solution (Moccasin) of the Lederle Laboratories, Inc., in the treatment of hemorrhagic conditions. The Council found the status of the preparation promising but felt that more adequate evidence was desirable for further consideration. In 1939 the firm called the Council's attention to the fact that twelve papers on the subject had been published since the Council's report, ten containing evidence for its therapeutic use and two dealing with an intradermal test and the action of the venom on capillary walls. This later litera-

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ture has been considered by the Council. Allergic conditions and hemophilia were excluded as not meriting further considerations. The report, therefore, covers the evidence for the use of the preparation in the treatment of functional uterine bleeding, idiopathic epistaxis, multiple hereditary telangiectasis (Osler's disease), thrombocytopenic purpura hemorrhagica and splenectomy. On the basis of its review of the latest literature and a statement received from a consultant who has had extensive experience with venoms, the Council reached the following conclusions: (a) that Snake Venom Solution (Moccasin) (Lederle) is not acceptable for New and Nonofficial Remedies because the scope of its usefulness and its limitations have not been established satisfactorily and because its use tends to delay the resort to splenectomy, which is known to be curative in a large percentage of cases of chronic involvement—a delay which may result in death; (b) that the general employment therapeutically of Snake Venom Solution (Moccasin) before its scope and limitations have been determined would do more harm than good and is not in the best interests of the public. (*J. A. M. A.*, June 1, 1940, p. 2218.)

Designations "Pyridoxine" and "Pyridoxine Hydrochloride" for Vitamin B₆ and Vitamin B₆ Hydrochloride. The Council on Pharmacy and Chemistry reports that there has been a considerable exchange of correspondence with Dr. Paul Gyorgy, and with representatives of the committees on nomenclature of the American Chemical Society, the American Society of Biological Chemists, and the American Institute of Nutrition, as well as others, in reference to the adoption of a nonproprietary term for vitamin B₆. As a result of this exchange of opinions the Council has adopted "pyridoxine" as the nonproprietary term for the product tentatively known as vitamin B₆, and "pyridoxine hydrochloride" for the product tentatively known as vitamin B₆ hydrochloride. No brand has been accepted as yet by the Council. (*J. A. M. A.*, June 15, 1940, p. 2387.)

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BLUEPRINT FOR TYRANTS

(Editorial, *New York State Journal of Medicine*, Sept. 1, 1940)

"This barbarian tyranny," writes Machiavelli to Lorenzo de' Medici in 1512, "stinks in all nostrils" The medical profession can well afford to note the words and advice of this sincere though too supple a republican. For, on the principles and infringements of the moral code suggested to Lorenzo, derived from a practical philosophy based on history, he developed statecraft into a science of a repulsive order. "A display," says Macaulay, "of wickedness . . . cool, judicious, scientific, atrocious."

It may seem strange to urge upon the profession that they read first *The Prince*, and second, Macaulay on Machiavelli. But we do so in the light of developing historical events here and abroad in which the thought, the opinion, and the lives of medical men are sure to be involved. For we enter, as this is written, upon a new phase of American life—the development of a great national army, the mobilization of American sentimentality and exploitation of business and professional greed—which is being forced upon us by those abroad who have carefully studied Michiavelli, probably more carefully than Domitian ever studied Tiberius.

The cynical exploitation of human frailties and gullibility began on a large scale with the Polish invasion, reached a climax with the decay and the collapse of France, and is now being focused upon us, according to the news dispatches, with the end in view to use for the necessities and purposes of the usurper, the pitiful plight of the invaded countries upon which all seven vials of the apocalypse have been poured forth and shaken out—"slaughter, famine, beggary, infamy, slavery, despair," and treachery.

In the forefront of our national reaction to the mechanized brutality of Europe, both western and eastern, stands the medical profession. Opposed in principles and objectives to nazism and communism, it must yet recognize in bitterness that the essence of war is violence. Let all proposals, from whatever source, be carefully and thoughtfully exam-

ined by a well-informed profession—especially those based upon an appeal to humanitarianism or realism or—in view of what has happened in Norway, in Holland, and in France—on a kind of patriotism characterized by Samuel Johnson as the last refuge of a scoundrel. No Grecian horse had entered Troy if Trojans had not brought it in:

"What Diomedes, nor Thetis' greater son,

"A thousand ships, nor ten years' siege had done—

"False tears and fawning words the city won."

STAPHYLOCOCCUS AUREUS MENINGITIS

Sulfathiazole, the latest addition to the sulfanilamide family, proved effective in bringing about the recovery of a child suffering from staphylococcus aureus (a yellow pus-producing bacterium) meningitis (inflammation of the membranes surrounding the spinal cord and brain), Frederick W. Dietel, M.D., Churchville, N. Y., and Albert D. Kaiser, M.D., Rochester, N. Y., report in *The Journal of the American Medical Association* for August 24.

Staphylococcus aureus as a causative agent of meningitis is comparatively unusual in children, but when it does occur the mortality rate is high. In the case reported by the two physicians the drug was administered by mouth daily for a period of nine days. "At the end of three weeks there was complete recovery," they say.

DIETARY HABITS

Diet may play a part in causing many other ailments besides those commonly recognized as dietary deficiency diseases, *Hygeia, The Health Magazine* points out. Among these are certain forms of heart disease, hardening of the arteries, arthritis, chronic stomach trouble, diabetes and occasionally an unexplained headache. It has been found that a change in the dietary habits of patients suffering from these diseases to a diet termed "protective" not only mitigated their distressing symptoms but actually restored the soundness of the injured tissue.



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EXPLAINS REASONS FOR REMOVAL OF TONSILS OF THE QUINTUPLETS

The reasons for the removal recently of the tonsils of all of the Dionne quintuplets are given by their medical guardian, Allan R. Dafoe, M.D., in *The Journal of the American Medical Association* for August 10 in answer to an inquiry to *The Journal* from a New York physician who sought an explanation as to "why such perfectly reared children should all at the same time have tonsils so diseased that they had to be removed."

Dr. Dafoe says:

"There appears to be an implied suggestion in the inquiry to the effect that the removal of the quintuplets' tonsils was an example of unjustified 'wholesale' tonsillectomy.

"First of all let me make clear that I am opposed to the removal of tonsils when it is not necessary. In the case of the Dionne quintuplets the children had been subject to recurring attacks of tonsillitis of growing severity over the course of between two and three years.

"Probably the best method of justifying these operations is to quote from the successive reports of Dr. Allan Brown, physician in chief, Hospital for Sick Children, Toronto, professor of diseases of children, University of Toronto Faculty of Medicine. Dr. Brown is one of the foremost pediatricians (specialist in treating children's diseases) of Canada and in my position as medical guardian of the Dionne quintuplets I have from time to time had the benefit of Dr. Brown's consultations.

"On November 7, 1938, Dr. Brown examined the children and reported: 'In general their health is excellent with the exception of their tonsils and adenoids, which are in a chronic state of inflammation, which already accounts for the enlargement of their cervical glands—this latter is palpable evidence that the infection from their tonsils is spreading and at any time may get into the whole system, producing disastrous results such as involvement of the heart or joints or even severe generalized infection with death.

"It would be difficult for any one to assume further

responsibility for these babies unless their tonsils and adenoids were removed at once. This procedure should be done on all five at once and should not be attended with risk under the able guidance of Dr. Dafoe.'

"After this report, it would have been criminal for me to delay further. The operations were performed on November 9. Dr. Brown was present and examined the tonsils and adenoids as they were removed. I quote from his report: 'Marie: 'Tonsils rub against one another in midline. They are fibrous, chronically inflamed and ulcerated in deep fissures. Each tonsil is firmly adherent to walls of fossa... Large, flat, mushy adenoid tissue was removed...'

"Annette: 'Tonsils very large, pink, no deep fissures. Ulcerated in various areas. Areas of fibrosis and ulceration with hemorrhage was seen when the tonsils were removed. Each tonsil firmly adherent to walls of fossa. Large flat adenoid tissue, one third size of larger tonsil was removed...'

"Emelie: 'Areas of fibrosis and chronic inflammation. About twenty points of chronic inflammation on these tonsils. Large and distended. Each tonsil firmly adherent to the walls of fossa... Spherical, very large, ulcerated adenoid pad.'

"Cecile: 'Tonsils nearly touch. Most of surface ulcerated. Soft, pulpy and some fibrosis. Some crypts filled. Each tonsil firmly adherent to walls of fossa. Large fibrous adenoid...'

"Yvonne: 'Tonsils nearly touch in midline. Large. All the tonsil surface ulcerated. Tonsils one half size of others but relatively large for her throat. Each tonsil firmly adherent to walls of fossa. Central form large mass of adenoid.'

"As a conclusion to this series of reports I quote from a report made when Dr. Brown visited the children on June 10, 1939, eight months after the operations: 'It is a great source of satisfaction to see the remarkable improvement since the removal of their sources of infection. Their cervical glands (neck) are now normal and there is no sign of any deleterious effect that the diseased tonsils might have had. The operations will act as an insurance policy for their future health...'

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ALL ALCOHOL USERS MUST GUARD AGAINST ABNORMAL DRINKING

The danger of excessive alcoholism threatens any man who finds that his social drinking is assuming less and his solitary drinking more importance, Edward A. Strecker, M.D., Philadelphia, warns in the September issue of *Hygeia, The Health Magazine*.

Since everyone who drinks at all must constantly be on guard against the tendency to abnormal drinking, any departure from the pleasant social ritual of drinking is to be viewed with suspicion. If the danger signals are heeded, however, the calamity of abnormal drinking need never occur, Dr. Stricker believes.

"When a man begins to feel that he must habitually drink in the morning in order to recruit courage enough to get through the day, then he is in danger," the author declares. One should also be wary if he finds himself taking a drink with regularity at intervals throughout the day. The amount of alcohol consumed is not so important as the fact that there seems to be an almost imperative demand rising from within the individual to punctuate the routine of the day by a stated number of drinks.

"There seems reason to think that abnormal drinking is a psychoneurosis and that the effect of alcohol is utilized unconsciously, just as neurotic symptoms are used unconsciously as instruments of escape from inner and environmental difficulties and demands which cannot be faced," Dr. Strecker explains.

"Alcoholism which is true to type and not merely a symptom of some other condition is much more likely to occur in those individuals who, in their personalities, are quiet, often shy, sensitive, reserved, given somewhat more to thought than to action and usually not able to meet social situations with ease and facility. By accident or design, many soon discover the magic of a few drinks in producing a satisfying conversational ease and social confidence.

"The effect of alcohol that is eagerly sought, although the seeking is often unconscious, is the regressive effect. In confirmed and excessive drinking, individuals often regress to very early and irresponsible levels, with complete loss of control of the ordinary organic functions.

"Rationalization, the psychologic device of believing what one wants to believe, is an integral factor in the personality of the chronic drinker. But as alcoholism advances only the merest shreds of rationalized 'reasons' remain; the drinking becomes uncontrolled. The frantic objective of the drunkard is the attainment of the anesthesia of complete drunkenness in order to escape the horribly painful mental conflicts which rise to the surface of consciousness at the first faint dawning of sobriety.

"Now comes the stage of complete nonreasoning, automatic drinking. It is like the posthypnotic behavior of the subject who is obeying suggestions made to his unconscious mind during the hypnotic trance. He has no knowledge of why he acts as he does, but the demand to behave as he does is imperative. In somewhat similar fashion, the suggestion to drink again and again comes with the first intrusion of sobriety with all its painful accompaniments.

"The alcoholic person, in the odd assortment of advice

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he has received, has been told to 'forget' his painful and sordid alcoholic past. It is more important that he should never forget it. He should learn that each time his mind is assailed by alcoholic thoughts and desires they should not be repressed, but should induce a review of the whole painful panorama of previous experiences following as an inevitable aftermath of taking a single drink.

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The present spectacle of vitamin advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

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Under the rules laid down by the American Academy of Pediatrics, their new educational-to-the-public film, "When Bobby Goes to School," may be exhibited to the public by any licensed physician in the United States.

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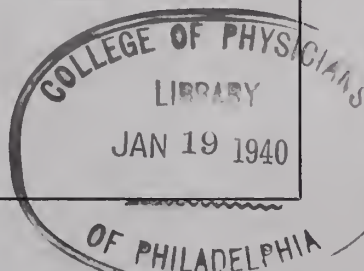
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● THE RESULTS NOTED

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Copper	0.00275
Manganese.....	Distinct Traces

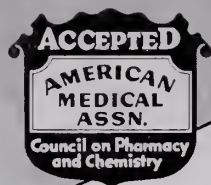
B VITAMINS TESTS

Average per gram, 45 Sherman B₁ and B₂ (G) units; 800 plus International B₁ units per ounce. 3½% in a B complex free ration gives good growth, reproduction and successful rearing.

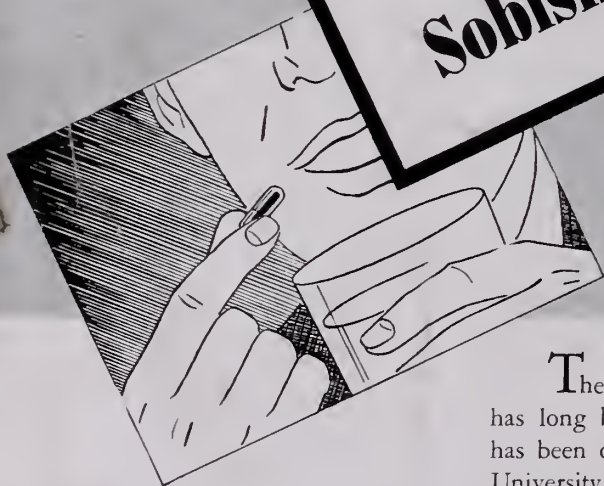
VITAMIN FOOD CO., INC.

122 Hudson Street
NEW YORK, N. Y.

VEGEX, INCORPORATED



ORAL Bismuth — an adjuvant in syphilis therapy Sobisminol Mass*-(Cutter)



The value of bismuth therapy by intramuscular injection has long been established, but a satisfactory *oral* preparation has been only a hope. Hanzlik and his associates at Stanford University have for many years been in the forefront of those striving for a preparation which would be both safe and clinically effective.

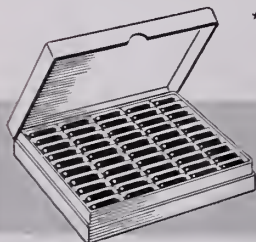
Cutter Laboratories are pleased to have been associated with this group and to announce the successful conclusion of their work.

Sobisminol Mass for oral administration is now available. When administered under direct supervision of a physician it is well tolerated and appears to have an antisyphilitic effect comparable to that produced by other soluble compounds of bismuth injected intramuscularly. Accepted by the Council on Pharmacy and Chemistry, American Medical Association.

Packages: Sobisminol Mass (Cutter), cartons of 100 and 1000 capsules, each containing 150 mg. bismuth equivalent.

Sobisminol Solution (Cutter), cartons of 12 and 100 one and two c.c. ampoules for injection.

*Manufactured under
license from
Stanford University



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Manufacturers of biologicals and allied specialties for the medical profession since 189

NORTHWEST MEDICINE

Bind advt. p 19.

VOL. 39

DECEMBER, 1940

No. 12

Attention, Please!

Examining Boards for Selective Service — Washington Section
Report of Oregon Annual Meeting — Oregon Section
Medical Legislators — Editorial

Carcinoma of Stomach and Intestines — Herrmann
Malignant Tumors of Head and Neck — Cantril
Carcinoma of Cervix — Harris et al
Cancer of Large Bowel — Cattell

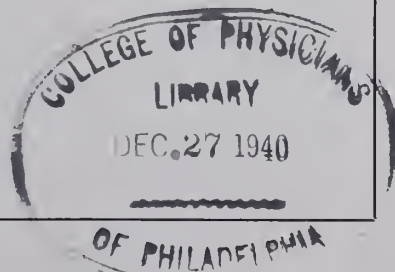
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THE TUMOR INSTITUTE *of the* SWEDISH HOSPITAL

OFFERS

Consultation service to physicians
and radiation facilities for patients
with neoplastic and allied diseases

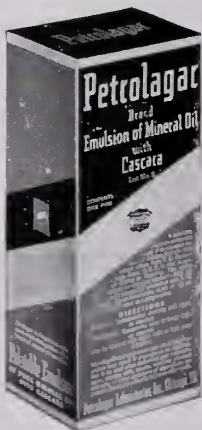
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For Stubborn Cases...

Petrolagar* with Cascara



Stubborn cases of constipation usually yield to Petrolagar with Cascara.

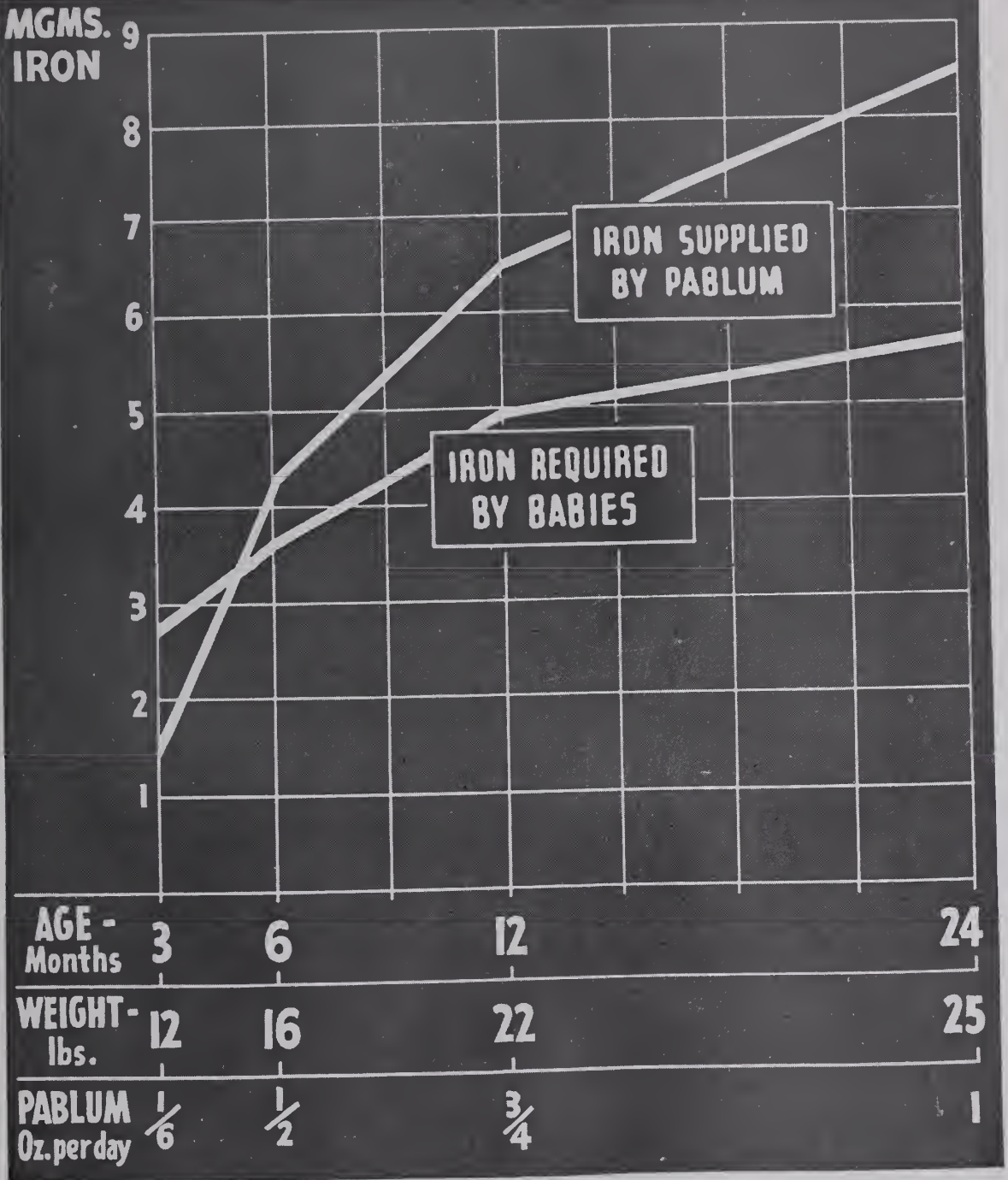
This preparation provides sufficient laxative effect to help restore normal bowel habit in chronic cases, yet it is mild enough for use in obstetrical cases. Each tablespoonful contains 13.2% of non-bitter aqueous extract of Cascara Sagrada.

The dose of Petrolagar with Cascara is one tablespoonful two to three times daily—gradually diminished. It has the advantage of exceptional palatability and continued effectiveness despite prolonged use.

Petrolagar with Cascara is available in 16 ounce bottles at all pharmacies and in the special Hospital Dispensing Unit at hospitals.



*Petrolagar—The trademark of Petrolagar Laboratories, Inc., for its brand of mineral oil emulsion—liquid petrolatum 65cc. emulsified with 0.7 Gm. agar in a menstruum to make 100 cc.



**DAILY AMOUNT OF IRON REQUIRED BY NORMAL BABIES,
AND AMOUNT SUPPLIED BY PABLUM**

The infant starts life with a store of iron. There is a steady drain of this reserve during the first few months. Because both breast milk and cow's milk are poor in iron, it is becoming the practice to feed iron-bearing foods at as early an age as possible. As shown in the above chart, from about the fourth month Pablum alone supplies more than the infant's daily iron requirements. In this chart, the require-

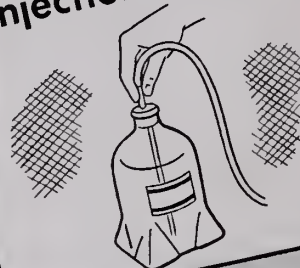
ments are based on the conservative estimate of the Council on Foods, i.e., 0.5 milligram per kilogram of body weight. The iron supplied by Pablum is calculated on the basis of 8.5 mg. per ounce. On account of its thorough cooking Pablum is well tolerated, having been fed without gastrointestinal upset as early as the first month. Bibliography on request. Mead Johnson & Co., Evansville, Ind., U.S.A.

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Hanging device completely out of the way until moment needed.

Flask hangs perfectly straight. Contents delivered may be accurately read at a glance.

and safe to use because of Saftiflask's complete simplicity . . . just plug-in your injection tubing!



Air tube always in place, assuring quick starting, steady flow. No involved gadgets to assemble, sterilize and screw on.

Vacuum sealed. Each Saftiflask is mechanically sealed but, more important, the presence of a vacuum gives visible evidence that each Saftiflask reaches your hands in the same safe condition as when approved by Cutter's testing laboratories.

Plug-in any dripmeter or connecting tube already attached to your injection tubing. No loose parts to wash, sterilize and assemble. No involved technique with resultant multiple sterility hazards.

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